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Industrial Control Bill Passes the House

Debate Was Greatly Curtailed Under the "Gag" Rule and Measure Was Passed the Latter Part of Last Week by an Overwhelming Majority—Manufacturers Sales Tax Which Was Proposed to Finance Measure Was Heavily Voted Down—Impossible to Say When Bill Will be Disposed of in Senate But Will Be Debated at Some Length

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 31, 1933—The industrial control bill passed the House of Representatives the latter part of last week by an overwhelming majority. No changes were made in that part of the bill affecting industry or its control. Members of the House feel that there will be a number of changes when the bill passes the Senate.

As a matter of fact a great many members of the Senate, including some prominent members of the Democratic party, are much opposed to some of the provisions of the bill, particularly the relaxation of the Sherman anti-trust law as provided in the bill as it passed the House.

Some hearings have already been held on the bill by the Senate Finance Committee and it is expected that they will be all over before this paper reaches its readers.

Debate in the House was very much curtailed under stringent rules adopted by that body, denominated "gag" rules by many members of the House. There was practically no discussion of those provisions relating to industrial control, almost all debate being limited to the tax provisions. A vote was taken for the insertion of the manufacturers sales tax instead of the taxes now provided in the bill but this amendment was overwhelmingly voted down, in spite of talk that sentiment had changed in this connection.

While it is impossible to state at this time when the bill will pass the Senate it is believed that it will be under discussion in that body for considerable more time than it was in the House owing to the difference in legislative rules of procedure.

Michigan Mills More Active

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., May 29, 1933—The rapidly moving mass of heretofore nationally pent up ergs is gradually increasing its favorable effect upon the Western Michigan paper industry. A few flurries, caused by the fast moving political changes, have had their encouraging effect on paper mills in this district, but confidence in a steady incline in business favor is encouraging mill heads.

Many of the Western Michigan paper mills, in line with others throughout the country, are finding markets opening up, due to increased prices in general and are looking with confidence for still further increases in business.

Jobs are on the rise in the mills and in many cases employment has more than made up the loss sustained during the banking holiday. Some mills have even restored their employment to higher levels than before the holiday.

The Kalamazoo Vegetable Parchment Company has found it necessary to extend working schedules to a considerable extent due to expansion of demand in all lines of material processed. The future, according to Jacob Kindleberger, president of that company, "is definitely rosy and there is every reason for a feeling of confidence."

The Sutherland Paper Company has been maintaining a little better than an even break in business generally and has added nearly $3,000 to its payroll during the last month. L. W. Sutherland, president of the Sutherland Company, says the outlook is most encouraging.

Of the 1,000 men given jobs in Muskegon during the past two months, the Central Paper Company has taken a large number, placing its entire schedule up to a full time standard.

Michigan Paper Company officials in Plainwell report that there is a slight improvement in the demand for print and coated papers and that they anticipate a general upward trend. The Kalamazoo Paper Company finds it has been necessary to extend the working schedule slightly. The last weeks have seen a decided improvement.

Scandinavian Pulp Mills Concerned

The recent depreciation of the dollar is causing some concern to the pulp and paper industries of Northern European countries, inasmuch as their sales to the United States have been in dollars, and the returns in crowns will be correspondingly less, according to Commercial Attache Lund at Oslo.

It is commonly accepted that European prices have been below American quotations; in fact, the comparatively favorable showing of a number of mills last year was due to the fact that sales were made in dollars. This advantage will be lost, of course, unless there is a corresponding increase in prices, a development naturally hoped for, but hardly expected unless buying is stimulated.

Paper Demand Advances Broadly In Chicago

With Few Exceptions, All Standard Grades of Paper Display Greater Strength and Improved Undertone—Fine Paper Market Conditions Decidedly Better, With Increased Request Reported—Book and Cover Papers Generally Buoyant—Paper Board Section Firm

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., May 27, 1933.—Chicago, busy and bustling with the opening of A Century of Progress Exposition, is finding time to contribute materially to the general business improvement. The paper industry is included in this broad advance and, with only one or two exceptions, all grades of paper show strength and improved tone. The kraft market is stronger and demand has broadened out. Toilets and tissues are reported especially good. Fine papers have increased in demand and the market conditions are reported exceedingly gratifying. Books and covers have shared in the general betterment. The news print market was reported uncertain because of recent price changes and the ground wood markets have, of course, felt this uncertainty. In general, however, the outlook is reported brighter. Paper board manufacturers report much improvement within the past ten days, tonnage requirements increasing and prices firm. A characteristic of the present week has been a tendency toward larger orders, something of remarkable interest to paper executives and taken to mean confidence on the part of buyers in a firming price structure and in future possibilities.

Improvement Gaining Momentum

The Chicago area is keeping pace in the trade upturn and the improvement in business appears to be gaining momentum. In a recently printed article a Chicago printer, official of one of the largest printing establishments, said that he has observed a change in the attitude of every one which he hopes will be transformed into orders shortly. He asserted that there has been a marked increase in the number of inquiries, which usually comes before the actual orders. All, of course, being good news to the paper industry. Walter Paepcke, president of the Container Corporation of America, quoted in the same article, says that his company has had a few "good weeks." The plants of the company are now running at about 65 per cent of capacity, he said. Prices of raw materials entering into the containers which his company manufactures have stiffened recently, he said.

That the paper industry is now making up for lost time is evidenced by the position held in the seventh Federal Reserve area for the week ending April 15. At that time paper and printing groups were one of only three out of the ten reporting groups which showed a decline in earnings. The 302 reporting firms, for the week of April 15, showed 38,475 wage earners with earnings of $801,000, an increase of 0.2 per cent in wage earners and a decline of 1.6 per cent in earnings as compared to the week of March 15.

Work of the Paper Foundation

While monuments are being passed out for splendid work done in face of many discouragements, including the now ancient business depression, Chicago paper merchants believe that the Paper Foundation, Inc., should be represented. The Century of Progress Exposition opened in Chicago on May 27, a week earlier than was anticipated. Yet the Paper Foundation exhibit was practically all set and ready to attract the interest of thousands of World's Fair visitors. "The doubting Thomases are now about convinced that Chicago means business on this Century of Progress Exposition," said Phil Howard, managing director of the Foundation. "Many will probably wish to be represented after they see the splendid location of the exhibits and the crowds that are being attracted. We are not all completed as yet but we are well on our way and can match cards with any of the rest of the exhibitors. The 'house of paper' is completed and the paper machine is here and installed. The individual exhibits are coming in fast and are being squared away for the big crowds confidently exhibited." Chicago paper executives who have watched the progress of this exhibit, against admitted heavy odds, are warm in their commendation of the efforts put forth. They are equally positive that the exhibits—both the central display and the private ones—will do a world of good for the paper industry, not only in increasing actual sales but in establishing prestige.

Paper Salesmen's Golf Season Opened

The Mid West Division of the Salesmen's Association of the Paper Industry utilized its Monday meeting to commemorate the most successful golf season opening yet held. The first event held last Friday at the Bob-O-Link Golf Club attracted a lot of newcomers who, along with nearly fifty regulars, had a great time. Winners in the first event—always an important item to salesmen everywhere—are as follows: Low gross, A. Hopkins, Gaw-O'Hara (90); low net, handicaps of 17 and under, three tied as follows, W. B. Moore, Brown Paper Goods; W. H. Smythe, West Virginia Pulp and Paper and P. C. Jones, International Paper; low net, handicaps of 18 and over Carl Engholm, West Virginia Pulp and Paper; low net first nine, I. L. Gartland, Northwest Paper Company; low net second nine, two tied as follows, Frank Stephens, Sorg Paper Company and E. L. Kischel; low putts, Frank Prentiss, Hollingsworth & Whitney (31); foresome putts, W. B. Moore; J. McHenry, Mid States Gummed Paper; C. Engholm and Frank Prentiss; low net foresome, F. Pegenstecher, Bryant Paper Company; E. Runcie, Champion Coated Paper Company; Ed Carpenter, Swigart Paper Company and F. M. Stephens; low score par three holes two tied as follows, A. J. Austin, Moser Paper Company and Courtney Reeves, Allied Paper Company; blind bogey (85) six tied as follows, A. H. Smythe; A. J. Austin; George Bond, International Paper; F. Pegenstecher; F. M. Stephens and R. Wesley, Rhinelander Paper Company. The next scheduled event, according to the handy card put out by Bill Tilden, golf chairman, will be held at the Sunset Ridge Country Club, Winnetka, on Friday, June 23.

News of the Trade

Two events are scheduled for Chicago in June which are of interest to the paper industry as they affect manufacturers of power machinery and industrial advertisers. The Eleventh Annual Convention of the National Industrial Advertisers' Association will be held here June 26 to 28, with headquarters at the Medinah Athletic Club, and will include an extensive exhibit of successful industrial advertising on many products. Industrial executives in all fields are invited to attend the conference and exhibi-

tion regardless of whether their organizations are members of the association. Forest Webster, Cutler-Hammer, Inc., who is president of the N.I.A.A. reports that one of the largest gatherings of industrial executives in the history of the organization will participate in the conference. The 1933 Chicago Power Show will be held in Chicago June 25 to 30. It will be the big focal point for engineers, the important meeting place of executives and the effective visual sales stimulation for the manufacturer. "Engineering Week" at the Century of Progress Exposition will be the big feature.

The United Container Association held an important meeting in Chicago on May 23 and 24. The attendance was satisfactory and some progressive steps were taken in the meetings of the membership, traffic, standardization, cost and statistical and executive committee sessions held on May 23. On May 24, E. E. Scharff, head of the Scharff-Koken Manufacturing Company, spoke on recent economic developments affecting the industry and W. D. Lane, president of Eggerss O'Flyng Company, discussed methods of creating a better competitive spirit within the industry.

The Mid West Wall Paper Mills, which for over ten years has averaged a five day week, has, during the past six weeks, been forced to run Saturdays as well as overtime on the other five days in order to keep up with the rush of orders. The demand is for cheaper goods but the improvement is taken to reflect the general betterment in business conditions.

According to reports from Alton, Ill., the Alton Boxboard and Paper Company has notified three hundred employees of a 10 per cent increase by G. G. Otto, president of the company.

The purchasing department of the Caldwell-Moore plant of Link-Belt Company, Chicago, has been moved to the company's Pershing Road plant at 300 West Pershing Road, Chicago, thus combining all purchases for the two plants under the supervision of Henry M. Coen, purchasing agent.

Westvaco Inspirations for Printers, number 81, puts in its appearance in Chicago offices this week. This issue is dedicated to "When the Wheels of Industry Turn." Some of the well written articles, all exceptionally illustrated, are headed "The Voice with a Smile"; "There's Power in the Story-Picture"; and "Contrasts Are Convincing". National advertisers have cooperated in making this particular issue of Westvaco outstanding in interest to advertisers and buyers of printing.

Argentina a Steady Market for Paper

That Argentina offers a steady market for foreign paper and paper products is shown by statistics recently compiled by Assistant Trade Commissioner J. B. Smith, Buenos Aires.

During the past 14 years the estimated average annual real value of foreign paper and paper products imported into Argentina amounted to about 22,000,000 gold pesos, or about $21,300,000 at par, it was stated.

During 1930, imports of paper and board accounts for 88½ per cent of the real value of all imports in this line; books and printed matter, and articles manufactured from paper and board accounting for 7½ per cent and 4 per cent, respectively, during that year.

Most of the imports originated as follows:

News print, Canada, German, Norway and Sweden; book and writing paper, Germany; wrapping paper, Sweden and Germany; and boards, Finland, Germany and the Netherlands.

Pacific States Paper Merchants Meet

In a two day session, marked by important discussions of current conditions in the paper industry, the Sixteenth Annual Convention of the Pacific States Paper Trade Association met at Del Monte May 11 and 12 and laid out a program of constructive work to be accomplished during the coming year. The meeting was well attended from all sections of the Pacific Coast and was presided over by President H. L. Zellerbach, also president of the Zellerbach Paper Company.

Stabilization plans of the paper industry, standardization and simplification, credit control and administrative problems were among the subjects considered. Arthur H. Chamberlain, secretary of the National Paper Trade Association of New York, was in attendance and addressed the group on the activities of the national body, which is closely cooperating with the manufacturers in working out a solution of mutual problems. At the conclusion of the business meetings, the Annual Convention Golf Tournament, conducted by the manufacturers, was held over the beautiful Del Monte links.

Arthur W. Towne, vice president of Blake, Moffitt & Towne, San Francisco, was elected the new president of the Pacific States Paper Trade Association and Del Monte was chosen as the meeting place for the 1934 convention. Associated with Mr. Towne as new administrative officers are C. H. Beckwith, San Francisco, executive first vice president; J. W. Thompson, Seattle, Samuel Abrams, Los Angeles, T. A. O'Keefe, San Francisco, M. B. Olsted, Los Angeles, Ralph D. Finch, Portland, vice-presidents; and H. Arthur Dunn, San Francisco, secretary-treasurer.

In accepting his new office, Mr. Towne stated it would be the policy of the association to continue the progressive program followed by the retiring president, H. L. Zellerbach, pointing out that the opportunity for service to the industry by a properly functioning association was never more favorable and with the loyal support of the membership he looked for the year to be one of accomplishment. A number of new members were added during the past year and it is the expectation of the new administration that more will feel the desirability of joining in the near future.

Credit Congress to Meet

A Credit Congress of Industry will be held in Milwaukee, June 20, 1933. This is the Trade Group meeting day of the 38th annual convention of the National Association of Credit Men being held this year at the Hotel Schroeder, June 19 to 23 inclusive.

The Trade Groups organized for the Credit Congress of Industry have scheduled all-day programs builded around the broad aspects of sales and credit administration, with special emphasis in each program upon those subjects or problems which are of particular significance to each trade. These meetings have for their purpose the development of cooperation and coordination of effort in sales and credit work, and every business executive will find that he will derive real and lasting benefit from attendance at the Group Meeting of his trade associates. Meetings are open to non-members as well as to members of the National Association of Credit Men.

The Trade Group meetings including Paper Products and Converters Group, chairman, Russell C. Flom, Menasha Products Company, Menasha, Wis.; and the Fine Paper Group, chairman, K. E. Hellstrom, Messinger Paper Company, Chicago.

Idle Canadian Mills Swell News Print Loss

Consolidated Paper Corp., and Its Various Subsidiaries, Report Deficit of $98,087 in First Fifteen Months of Operation—Decreased Demand for News Print Paper Compelled Closing of Some Plants, With Resultant Heavy Carrying Charges

[FROM OUR REGULAR CORRESPONDENT]

A special to the New York *Times,* dated May 30, states that the first report of the Consolidated Paper Corporation, Ltd., and its subsidiaries, which has just gone forward to shareholders, covers the fifteen months from January 1, 1932, when the company came into being, to March 31, last. It contains details of the reorganization which led to the creation of the corporation.

In the fifteen months gross profits from operation, income from investments, exchange, miscellaneous and other revenues amounted to $2,448,849. Deductions of bank and other interest at $790,137, bond and debenture interest of subsidiary companies at $90,496, and carrying charges on properties not operated at $666,302 left a loss of $98,087 for the period, and before depreciation.

The balance sheet shows a reduction in secured bank loans of $4,805,000 and in inventories of approximately $4,000,000. Depreciation reserve is shown higher by $3,000,000.

The report of the president, L. J. Belnap, says in part:

"To conform with the provisions of the trust deed, the financial year of the corporation was determined as ending on March 31. The assets and undertakings of Canada Power and Paper Corporations and its subsidiaries were taken over as of January 1, 1932. This report accordingly covers a fifteen months' period.

"The Consolidated statements include the following wholly owned subsidiary companies: Anticosti Shipping Company, Haha Bay Land and Building Company, Laurentide Ottawa Company, Ltd.; Menjobagues Lumber Company, Ltd.; St. Maurice Valley Paper Company, Ltd., and Wayagamack News, Ltd.

"The plan of reorganization of Canada Power and Paper Corporation and its subsidiaries was issued by the Securities Protective Committee on June 2, 1931; was declared effective on August 10, 1931, and was ratified by the various classes of security holders of the constituent companies during October and November, 1931. Ninety-seven per cent of the securities of the constituent companies were deposited under the plan.

"On June 1, 1932, all assets and undertakings of Canada Power and Paper Corporation and its subsidiaries were transferred to Consolidated Paper Corporation, Ltd., as of January 1, 1932.

"In accordance with the plan, Consolidated Paper Corporation, Ltd., issued $51,406,900 principal amount of its first mortgage bonds and sterling registered stock and 1,534,725 no-par value shares. Concurrently with the change in the capital structure the book values of the assets were adjusted.

"The market price of news print in 1931, when the reorganization plan was approved, was $57 a ton delivered, was reduced to $53 a ton on January 1, 1932 and $45 a ton on June 1, 1932, and is now $40 a ton. Prices of other products which your corporation manufactures have also declined in both domestic and export markets. Had the 1931 prices been maintained during the period under review the gross revenue of your corporation would have been approximately $2,000,000 greater on the volume actually produced:

"Decreased demand for news print has compelled the closing of some of your mills, with resultant heavy carrying charges. The necessity of utilizing inventories, particularly pulp wood, has delayed the concentration of operations, attainment of the highest efficiency and lowest costs. Every effort has been made to lower costs and institute economies, with the result that savings of approximately $1,250,000 were effected in operating costs, administration, interest charges, etc. The corporation did not benefit from the economies instituted during the full period under review.

"The reduction and passing of dividends by companies whose shares are owned by your corporation decreased the income from investments $156,000.

"Accounts and bills receivable include amounts due from Price Brothers & Co., Ltd. (in bankruptcy), $526,993; Price Brothers Sales Corporation, $736,747, and Newsprint Institute of Canada, $345,065, resulting from contracts entered into prior to organization.

"An amount deemed sufficient to provide for doubtful accounts is included in the reserve for contingencies.

"Since the close of the financial year a further general reduction in the market price of news print has been made, which is currently $40 a ton delivered, and the net mill price as of April, 1933, is approximately $6 a ton less than the average price during 1913, 1914 and 1915. Consumption of news print paper reached its peak in North America in 1929, when it was 62 pounds per capita, whereas for 1932 it was 45½ pounds per capita, or slightly less than in 1922. Since 1929, however, there has been installed additional productive capacity of about 300,000 tons per annum.

"These conditions have forced many of the largest news print producers in Canada into receivership, bankruptcy or the hands of bond-holders' committees. Unsound and destructive competition, together with reduced consumption and excess capacity, is responsible for the present serious situation."

Chromium Corp. to Exhibit at Green Bay

The Chromium Corporation of America, manufacturers of industrial chromium plating, 120 Broadway, New York, will have a rather elaborate display of its Crodon-plated pieces at the convention of the American Pulp and Paper Mill Superintendents Association, to be held at Green Bay, June 8 to 10. This display will include chromium plated screen plates (both flat and curved), suction box covers, evaporator tubes, press rolls and many other items. There will also be shown a friction sliding mechanism to illustrate the extreme smoothness of the chromium plated surface in comparison with other metallic surfaces, which feature is of particular importance on screen plates, suction box covers, press rolls, etc.

At the business meetings A. F. Francis of the company's Milwaukee plant will read a paper entitled "Benefits of Chromium to the Paper Industry." In addition to Mr. Francis, the company will be represented at the convention by L. D. Jensen, Chicago district manager; George Millard, Howard L. Garvens and C. H. Belvin, Jr., of the Milwaukee plant. These representatives will be prepared to supply information and answer questions regarding any phase of industrial chromium plating.

Philadelphia Paper Market Continues Buoyant

Demand for Various Standard Grades of Fine Paper Expands and Prices Rule Steady to Firm—Bright Outlook for Passage of National Industrial Recovery Act Pleases Local Paper Industry—Opinion Expressed That Future Improvement Is Certain

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., May 29, 1933—More sales involving a larger volume of goods, doubtlessly in anticipation of still further increases in prices; the stimulating effect of such increases as already have taken place; and above all the enthusiasm engendered by the prospect of passage of the National Industry Recovery Act, have resulted in an enthusiasm in the Philadelphia paper trade greater than has been felt for a period of years. Because in the past on numerous occasions the enthusiasts were disposed to believe that temporary gains then enjoyed were indicative of a permanence, there remains just a little hesitancy in universal rejoicing. But representatives who are in a position to express opinion like President William A. Hentz, of the Philadelphia Paper Trade Association, are absolutely of opinion that the turn has taken place and that future improvement is certain.

All of the houses in the fine paper business, whose opinions were sought in a tour of the trade, reported improvement in buying, although the percentage of that improvement was of varying amounts. What particularly pleased them was the good spirit in which their customers, the printers, have taken recent advances in prices. The effect has been to put brakes on cut-throat competition previously existing, and on the other hand to enable them to do business much more advantageously with their own customers. Moreover, a perceptible increase in demands from advertisers who are now launching campaigns which have long been held back has stimulated activity in both the printing and the fine paper fields.

Paper Trade Association Activities

In view of the splendid success of the Philadelphia Paper Trade Association in securing in its Coarse Paper Division, the acquisition of fourteen new members—a list of the more prominent of which was published in these columns—a still further program of expansion is being launched. The newly elected members of the Coarse Paper Division, together with those previously in it, will meet for the first time, on Thursday of this week under the leadership of Butler Smythe, of the J. L. N. Smythe Company, who was very active in securing their cooperation; President Hentz hopes to be present and to make an address of welcome and of inspiration.

The larger project under contemplation by the Philadelphia Asociation, however, is to have united with it, representative dealers in the towns and cities, looking to Philadelphia as their metropolis. To that end a letter of invitation has been addressed to distributors in Harrisburg, Reading, York, Allentown, Lancaster, Scranton, Wilkes-Barre and other cities, the general tenor of which follows:

"No doubt you are familiar with the proposed National Industry Recovery Act which will have a great bearing on the paper industry. In view of this Act, don't you think it would be wise for your company to join the association?

"You will notice from the enclosed draft, which is reported to be very similar to this Act, the Government, working through trade organizations, is going to make plans with them so that once more paper houses can secure a proper investment on their capital. I think it is vitally important that all good paper houses be represented in the Paper Trade Association and follow the plan which they deem wisest to pursue.

"Within the last thirty days, fourteen Philadelphia paper houses have joined the ranks of the Philadelphia association, and in view of the progress being made they had good reason to do so. However, one factor that helped them in their decision was that under this new law any house that is not a member of the trade organization must take out a license to do business.

"At the moment, the Philadelphia association is considering a number of important things that will have considerable bearing on your business: Sulphite bond recovery, handling of seconds and job lots; prepayment or allowance of freight and that very peculiar subject, credits. Consider what you would get from this investment. I urge that you join."

But the effort to have these other dealers join is not the only one in which the Philadelphia association is active. It is constantly keeping in touch with sister organizations in New York, Baltimore, Chicago and other centers, that there may be uniformity in proceedings, particularly with regard to the fullest realization of possibilities offered under the National Industry Recovery Act, referred to in these columns a week ago. Word has been brought to the association from a high official in Washington that under the stress of the times, the Government is most eager to proceed along the lines of assisting industry as laid down by its organizations if there is a clear cut expression of just what those trade organizations desire in the way of legislation. The attitude of the Government and of the National Chamber of Commerce is most highly commended. And since, under the terms of the proposed Act, it will be necessary for a corporation not allied with its business organization to secure a license, opportunity for organization activities is, of course virtually without a limit.

Paper Stock Dealers to Meet

As a result of a suggestion made in these columns a week ago, the Philadelphia waste paper trade will hold a meeting for the purpose of resuming the activities which, in past years, were quite notable. Under the National Recovery Act, there is not only opportunity but there are real commanding reasons why the association should again become active.

The slight advance in paper stock prices which went into effect a week ago has not resulted in bringing out a larger supply of material, particularly of the better grades of mixed paper and of commons, than can very readily be disposed of. The paper stock packer scents a greater willingness of the mills, in view of advanced paper board prices, to buy and some evidence of a revived competition.

With regard to book stock, however, no notable improvement has been experienced but better prices are believed to be imminent, because the trade cannot realize how with the highest grade of mixed papers selling at $8 to $10 a ton, the better grades of stock represented by book papers

(Continued on page 46)

Boston Paper Market Improvement Continues

Volume of Inquiries for Various Standard Grades of Paper Expands, Followed by Actual Booking of Orders—Fine Paper Distributors Report Business Gradually Increasing—Kraft Wrapping Paper Firm, With Upward Price Trend—Box Board Fairly Active

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., May 29, 1933.—The month of May showed a distinct improvement over the previous month in many lines of paper. Paper distributors generally are in a cheerful mood, brought about partly by the greater activity of the last several weeks and partly by the favorable prospects which have developed. The volume of inquiry, in many cases followed by actual orders, continued to swell last week. The price tendency was upward, as a whole, with the general increase in values of raw materials.

In the fine paper trade, such favorable comments as "a good business," "going along pretty well," business improved quite a little over the last month," "fair, we are getting our share," and "conditions look a little better," were made. Wrapping paper is firm, with a better business. The price trend is upward. One house stated that business was a little quieter than for the previous two weeks, but, even so, it was fair with this concern.

With a fairly good business continuing in box board, price levels of some grades have advanced $2.50 a ton. Filled news is up to $32.50, chip to $30.00, single manila lined chip to $40.00, and the range of single white, patent coated news board-bender has advanced from $45.00 @ $55.00 to $55.00 @ $57.50.

Paper Stock Situation Improves

The paper stock situation continued to improve. The market was strong, with the big demand for mixed papers, overissue news, corrugated boxes and roofing rags, all of which have advanced materially in price, while there is some demand for other grades, also advancing in value. No. 1 mixed papers rose to $.30 @ $.32½ compared with a former range of $.20 @ $.22½, overissue news to $.50 @ $.55 against $.35 @ $.45; corrugated boxes to $.32½ @ $.35 against $.25 @ $.30; old newspapers to $.40 @ $.45 against $.32½ @ $.37½; and box board, chip, to $.20 @ $.22½ against $.17½ @ $.20. While recently dealers could have sold old white No. 1 miscellaneous domestic rags for a considerably lower figure, they must now get 2 cents for them. No. 1 roofing stock has advanced to $.55 @ $.60 compared with a former range of $.50 @ $.55. The No. 2 and No. 3 grades remain firm at $.45 @ $.50 and $.35 @ $.40 respectively. Low grades of roofing material are in better demand.

Some grades of stock not in demand for three years, such as cotton sweeps, are now moving. Black stocking advanced to $2.25 @ $2.50 from a former range of $2.00 @ $2.25. In foreign rags, dark cottons rose to $.80 @ $.90 from $.80 @ $1.00; new No. 1 white shirt cuttings to $5.00 @ $5.25 from $3.75 @ $4.00; Dutch blues to $1.75 @ $2.00 from $1.25 @ $1.50; and old fustians to $1.15 from $.75. In new domestic rags, unbleached shirt cuttings rose to $.06 from $.04½. Under bagging, Australian wool pouches advanced to $2.00 @ $2.00, compared with a former range of $1.75 @ $2.00; and No. 2 bagging to $.30 @ $.35 from $.25 @ $.35.

Wheelwright Receivership Continued

In the equity motion session of the Suffolk Superior Court on Thursday concerning the question of continuance of the George W. Wheelwright Paper Company, Leominster, Mass., Judge Wilford D. Gray ruled that the receivers, George Alpert, George W. Wheelwright and Carl F. Woods, carry on until August 21, on which date he will make an order finally declaring operations ceased and the business wound up or if a substantial profit is shown, order its continuance. Claims of about $600,000 stand against the company. The matter came before the court on motion of the receivers for instructions as to whether or not they should continue operations.

Mr. Alpert, a Boston lawyer, who is handling the legal aspect of the receivership for the others, stated that in his opinion, concurred in by his co-receivers, the business should be carried on, especially because of the measures being taken in Washington to assist business.

The Mayor, President of the Board of Aldermen, and the City Solicitor of Leominster, were among the group of fifty men present at the session. The Leominster city officials desire the company to continue in operation because about 200 persons are now employed there.

Francis M. Carroll, who appeared in behalf of the town of Hardwick, Mass., made inquiry as to how the town was going to get the taxes due it on the company's mill property there, which was abandoned shortly after the receivers took possession and the business transferred to the Leominster mill. "Can't you take the property?" Judge Gray asked. Mr. Carroll said that could be done, but that the town does not want to engage in taking over the property at this particular time. He suggested then that he might file a petition to intervene in the pending receivership proceedings as a creditor.

News of the Trade

The American Writing Paper Company has opened a brisk direct mail campaign on Glendale Bond. A complete sample and demonstration portfolio is used in merchandising this paper. The slogan for the campaign is, "When in Doubt Use Glendale." A discussion of the paper was presented to the sales forces of the following agencies recently: Arnold-Roberts Company; Carter, Rice & Co., Corp.; John Carter & Co., Inc.; and Knight, Allen & Clark, Inc.

Stimpson & Co., Inc., held a meeting of its salesmen and customers at the Hotel Manger Friday evening, at which a two-reel motion picture entitled, "It's in the Bag," was shown by Harry Lawless, the local representative of the Union Bag and Paper Corporation. The film showed the manufacture of kraft paper and bags. Following the picture, refreshments were served.

A sales meeting of Carter, Rice & Co., Corp. was held Friday evening at Warmuth's Restaurant, at which the entire sales force of the company was present. A group was present from the Hammermill Paper Company, including Roger B. Taft, in charge of the New York office; H. Ellis Frampton, assistant sales manager and advertising manager, and Mr. Grosse, both of Erie, Pa., all of whom spoke on the Hammermill papers. There was a general discussion, in which the Hammermill representatives answered questions.

The Storrs & Bement Company held a sales meeting Saturday morning at which company business was discussed. General Manager John H. Brewer presided at the meeting.

Obituary

Eugene J. Stilwell

Eugene J. Stilwell, pioneer Twin City paper merchant and well known Minneapolis business man, died at his home, 2430 Pillsbury avenue, Minneapolis, Minn., on May 15. He had been ill about two months.

Mr. Stilwell was president of the Minneapolis Paper Company in Minneapolis and the E. J. Stilwell Paper Company of St. Paul. He was prominently allied with a large number of civic projects, and from 1911 to 1926 was vice president of the Minnesota Agricultural Society.

Born in Newberg, Wis., in 1849, the year Minnesota became a territory, he was taken by his parents, Elizabeth Salisbury and Hiram Stilwell, to St. Paul in 1852, where the family home was established. The trip to St. Paul was made up the Mississippi river by steamboat.

Mr. Stilwell received his education in St. Paul, and entered the mercantile business. In 1873 he entered the employ of the firm of Averill, Russell & Carpenter, St. Paul paper dealers, and from that time on remained in the paper business. He was married in 1878 to Katie M. Goewey. Mrs. Stilwell died in 1929.

Growing up with the business of the original company. Mr. Stilwell became a member of the firm, and in 1891 it became the Wright, Barrett & Stilwell Company. In 1889 the organization had established a branch in Minneapolis under the name of the Minneapolis Paper Company, and by 1901 Mr. Stilwell's interest in the Minneapolis branch was such that he moved to this city to devote his entire time to this organization.

With the growth of the northwest, the Minneapolis house expanded, and in 1905 Mr. Stilwell took over the Minneapolis business by himself, surrendering his original interest in the parent firm. Moving from the first site in the Gateway district, the Minneapolis Paper Company established new quarters on First avenue North, and then erected its present five-story building at 400 Fifth street South.

Sensing the market which was developing, under Mr. Stilwell's guidance the Minneapolis Paper Company sent representatives through the northwest as far as the Pacific coast. In its early days Mr. Stilwell himself traveled over his firm's territory and soon became well known in the paper industry in this section of the country.

Although of late years Mr. Stilwell retained close touch with his firm, and the branch he established in St. Paul under the name of E. J. Stilwell Paper Company, he spent his winters in Florida and devoted much of his time to civic interests and the associations of pioneer days.

Active in his interest in the early days of Minnesota. Mr. Stilwell was a member of the Minnesota Historical Society and the Junior Pioneers of St. Paul. He was a Mason, a member of the Minneapolis Athletic Club and the Minneapolis Automobile Club. He also was a member of the Minneapolis Institute of Arts.

He is survived by one daughter, Mrs. Grace S. Boswell of Minneapolis, and two grandchildren, Eugene and Betty Boswell.

William Lynn Saunders

Word has been received of the death of William Lynn Saunders, secretary and a former director of the Albemarle Paper Manufacturing Company, which occurred May 22 after a long illness at Salem, Va. He was 39 years of age.

Lynn Saunders, as he was familiarly known, especially in New York City, where he had his office for many years, will be affectionately remembered by many of the fine paper merchants of this city, as well as in the other eastern markets.

Mr. Saunders went with the Albemarle Paper Manufacturing Company twenty-four years ago as office boy. He rose rapidly to a position of trust and importance, and not only endeared himself to his many friends in the trade but was so greatly loved and esteemed by all of his associates in the company that, even during his prolonged illness of eight years, he remained a very real influence in the personnel.

An interesting custom of his during his long illness was his constant interest in the activities of the paper industry through his reading of the journals of the paper trade.

Mr. Saunders was a native of Richmond and was a son of Mr. and Mrs. W. O. Saunders, the family being one long well-known in that city and state. He was educated in the local schools and in his early manhood entered upon a successful career in the business field there.

During the period of the world war he was enlisted in the chemical warfare section of the United States army and rendered a valuable service to the country.

As an official and director of the Albemarle Paper Manufacturing Company, Mr. Saunders was widely known and esteemed by a large circle of business and personal friends.

He was a member of Dove Lodge, Ancient, Free and Accepted Masons, and of the Country Club of Virginia. He was also a member of Grove-Avenue Baptist Church, Richmond.

He is survived by his parents, Mr. and Mrs. W. O. Saunders; and by a brother, Randolph Saunders, all of Richmond.

G. Frank Merriam

G. Frank Merriam, 70 years old, president of the Holyoke Card and Paper Company, and one of the city's most influential business men, died last week in his home, 179 Clarendon Street, Springfield, Mass. He had been in failing health for some time.

Devoting practically all his business career to the paper concern, Mr. Merriam also had numerous business connections with Springfield financial institutions and allied businesses. Mr. Merriam was also active in church and fraternal life.

In a business career of over 40 years he won his place among the city's foremost business leaders by his ability and zealousness.

Mr. Merriam was born in Springfield August 1, 1863, son of George F. and Emily Maria (Wheeler) Merriam. He was educated in the Springfield schools.

Striking out for himself on his long, brilliant business career early in life, Mr. Merriam began working as clerk in Kibbe Bros. Candy Company, a position he worked at for three and a half years.

He then secured an appointment as bookkeeper for the Holyoke Card and Paper Company, which started him in the field where he rose to his position of prominence. Mr. Merriam became secretary in 1892 and president and general manager in 1904.

Under the leadership of Mr. Merriam the company developed a prosperous business in the manufacture of cardboard and surface coated papers.

In his numerous connections in the financial field, Mr. Merriam numbered directorships in the Springfield National Bank, trustee of the Springfield Institution for Savings and the Morris Plan Company. He extended his business interests by becoming director of the Crocker McElwain Company and the Chemical Paper Manufac-

turing Company. Mr. Merriam was also director of the Springfield Cemetery Association.

Mr. Merriam was active in the affairs of the first traffic bureau of the Chamber of Commerce. As a member of South Congregational Church, Mr. Merriam served on the property and finance committees. He was interested in the Springfield Y. M. C. A. and was among one of its active directors.

Mr. Merriam was married to Ida Belle Towne January 20, 1886. There was one child, Mrs. John B. Van Horn, who died in April, 1925, in her 39th year. Mrs. Merriam died in December, 1924. Mr. Merriam leaves one grandson, Cortlandt Van Horn of this city.

In addition to his business activities, Mr. Merriam also found time to interest himself socially in the Colony Club, Nayasset Club, Springfield Country Club and Longmeadow Country Club. His connections with the Masonic fraternities included the Springfield Lodge, Morning Star Arch Chapter, Springfield Commandery No. 6 Knights Templar, Connecticut Valley Consistory, and the Melha Temple Shrine.

Harold P. Straus

Harold P. Straus, aged 36, a vice president of the American Paper Company and a member of a family long prominent in Richmond, Va., died suddenly on May 23 at his home, 3303 Monument Avenue, Richmond, Va., as the result of a heart attack.

Mr. Straus was a native of Richmond and was a son of the late Isaac Straus and Mrs. Ella W. Straus, who are recalled by many Richmond people of the older generations.

He was educated in the local public schools and in his young manhood entered business becoming a vice president of the widely-known paper company with which he was associated at the time of his death.

Mr. Straus had taken an active and leading part both in business and in civic and fraternal life in Richmond. He was a member of Fraternal Lodge, No. 53, Ancient Free and Accepted Masons, and also held membership in the Jefferson Club.

He is survived by his widow, Mrs. Theresa Eisemann Straus; two children, Joan Straus and Harold Straus, Jr.; also by two brothers, Raymond I. Straus and Bernard Straus; and a sister, Mrs. Irma S. Cohn.

Frederick S. Lyman

BOSTON, Mass., May 29, 1933—Frederick Sylvester Lyman, a prominent paper manufacturer and the first in America to introduce the process of bleaching ground wood pulp by sulphur, died Sunday at his residence, 1894 Beacon street, Brookline, Mass. Mr. Lyman was born May 31, 1853, at Westfield, Mass., the son of Sylvester S. and Lucinda (Gaylord) Lyman. While he was a child, the family removed to Hartford, where he attended primary and high schools.

He started his career as a manufacturer of paper in Curtisville, Mass., where he bought the first ground-wood mill in the United States. Later, he established the Glen Pulp and Paper Company at Hoosac Tunnel. He was also the president and owner of the Cushnoc Paper Company of Augusta, Me., which he operated for a period of over thirty years.

Mr. Lyman was a member of the Boston City Club, the Boston Chamber of Commerce, and the Sons of the American Revolution.

A widow, Julia (Gribley) Lyman of Boston, a daughter, Miss Florence Gaylord Lyman of Boston, and a sister, Mrs. Marcus Morton Johnson of Hartford, are living.

New TAPPI Members

The Executive Committee of the Technical Association of the Pulp and Paper Industry has announced the following elections to membership:

Olof Bildt, managing director of Munkedals A/N. Hylte Bruks A/B, Rydo Bruks and Frbaiks A/B and A/B Nykvans Bruk, Munkedal, Sweden, is a 1904 graduate engineer of Chalmers Tekniske Institute and was formerly engineer for Hydgvans A/B, Nils Hanson, Korduas A/B and Sundsvalls Cellulose A/B in Sweden.

Earl H. Johnson, research chemist, Northern Paper Mills, Green Bay, Wis., received his Ph.D. from the University of Pennsylvania in 1931. Dr. Johnson was formerly employed as a chemist by the Fox River Paper Company.

William H. Joy, chemist, American Telephone and Telegraph Company, New York, is a 1921 chemical engineering graduate of Brooklyn Polytechnic Institute and was formerly an analyst for the Consolidated Gas Company, Astoria, L. I., National Lead Company, Brooklyn, N. Y. and Suffern & Co., Orange, N. J.

Frank S. McDonnell, superintendent, Tileston & Hollingsworth Company, Boston, Massachusetts, was formerly with Nashua River Paper Company, Pepperell, Mass., American Writing Paper Company, Holyoke, and Eastern Manufacturing Company, Bangor, Maine.

U. Grant Miller, vice president, Universal Steel Company, Bridgeville, Pa., is a 1907 graduate of Washington and Jefferson University, and was formerly engineer of Washington County, Pa.

Hugh C. Smith, paper tester, Kalamazoo Vegetable Parchment Company, Kalamazoo, Mich., is a 1930 graduate of Western State Teachers College.

Paul A. Snowman Jr., chemist, Peninsular Paper Company, Ypsilanti, Mich., is a 1932 graduate of the University of Michigan.

The Executive Committee of the Technical Association of the Pulp and Paper Industry has announced the following elections to membership:

Allen M. Cadigan, chief chemist, Rainier Pulp and Paper Company, Shelton, Wash. graduated from Pennsylvania State College in 1917. In 1917-18 he was chemist for the International Paper Company, Glens Falls, N. Y., 1918-20 chemist for the Union Bag and Paper Company, Hudson Falls, N. Y., 1920-23 chief chemist for the Mattagami Pulp and Paper Company, Smooth Rock Falls, Ont. and 1923-27 chief chemist for the Nashwaak Pulp and Paper Company, St. John, N. B.

John R. Fanselow, superintendent of research, Kimberly-Clark Corporation, Neenah, Wis., received his Ph.D. at the University of Wisconsin in 1927. From 1924 to 1928 he was a member of the faculty of the University of Wisconsin.

J. P. Foster, superintendent of production and power, Maui Agricultural Company, Paia, Maui, Hawaii, is a graduate of Lake Charles Cong. College, Lake Charles, La., and since 1930 he has been chemist and superintendent of sugar factories in Louisiana, Texas and Cuba; chemist of oil refineries in Louisiana, Texas and Cuba; chemist for the U. S. Customs House, New Orleans. He studied for two years at the Audubon Park Sugar Technology School, New Orleans and is a past president of the Hawaiian Sugar Technologists Association.

Leopold Werden, technical manager of finishing department, Peninsular Paper Company, Ypsilanti, Mich. is a 1927 graduate mechanical engineer of the University of Vienna. From 1927-1930 he was assistant superintendent of Bruder Mahler, Rennersdorf, Austria.

Thwing Resistometer

The Thwing Resistometer is an entirely new development in the instrument field. This Resistometer is used for checking and calibrating any electrical resistance thermometers and electrical resistance thermometer bulbs. This instrument is a combination wheatstone bridge and resistance measuring instrument, with features arranged so that resistance instruments may be checked for calibration and resistance thermometers may also be checked for calibration. The Resistometer is used also to advantage for any aplpication for which wheatstone bridges and resistance measuring instruments are used. The present range of the Resistometer is 1000 ohms.

The Thwing Resistometer is specially constructed for checking resistance thermometers and resistance thermometer bulbs. The Resistometer is a highly accurate instrument designed to be used both for the fine accurate measurements required in laboratories and as a portable checking and calibrating set for everyday plant use. The Resistometer is designed so that it can be used advantageously to fill all applications required of wheatstone bridges.

The Resistometer is really a laboratory in itself. It combines in a single compact instrument a wheatstone bridge, a stepped resistance for measuring all resistance to 1000 ohms and a resistance bulb comparator and a special resistance circuit for checking all types of resistance thermometers, direct deflection type and wheatstone bridge null method type.

NEW THWING RESISTOMETER

The Resistometer is simplified and easy to use. No technical knowledge is required to operate the instrument.

The standard Resistometer has the capacity to measure 1000 ohms. There are three stepped scales. The slide wire has a capacity of 11 ohms and scale graduated in divisions of five-one-hundredths of an ohm for accurate reading. Dial R2 has a capacity of 90 ohms in steps of 10 ohms and dial R1 has a capacity of 900 ohms in steps of 100 ohms.

The Resistometer provides the scientific method that enables either technical men to do all the necessary work of checking resistance thermometers and resistance thermometer bulbs in the laboratory and enables non-technical men to actually do the work of checking directly where the instruments are used in the plant.

The Resistometer is a beautiful piece of workmanship. It is contained in a solid walnut case with polished finish. The panel and all molded parts are made of bakelite, all metal parts are nickel plated. The cover of the case is mounted on sliding hinges so that it may easily be removed when the Resistometer is being used and easily replaced when the checking is completed. The case has a snap clasp lock and is furnished with a key. A leather handle attached to the case is provided for convenience in carrying the Resistometer.

The Resistometer is the product of electrical instrument makers with the prestige of 28 years' experience. It is made with all the refinements of delicate and highly accurate instruments and is fully guaranteed.

Standard Paper Mfg. Co. Gets Decision

WASHINGTON, D. C., May 29, 1933.—A. E. Later, an Examiner for the Interstate Commerce Commission has prepared a proposed decision for the Commission in which he found that the rates on printing paper from Richmond to named destinations in North Carolina, South Carolina, Georgia, Alabama, Mississippi and Tennessee are unreasonable and unduly prejudical. Reasonable and non-prejudicial rates are prescribed. The proposed decision is in the case of the Standard Paper Manufacturing Company, Inc., against the Alabama Great Southern Railroad Company.

Fenimore Mill Resumes

[FROM OUR REGULAR CORRESPONDENT]

HUDSON FALLS, N. Y., May 29, 1933.—Operations were resumed this week at the Fenimore branch of the Union Bag and Paper Company when a portion of the equipment was started. The mill has not been operated since last spring when labor trouble forced a cessation of work. The difficulty was recently settled and it is believed that steady operations will prevail for some time. The other machine at the plant will be started as soon as a sufficient wood pulp supply is secured. Many of the recalled workers are engaged in preparing the mill for full operations and indications are that a full force will soon be employed.

Awards for Government Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 31, 1933.—Barton, Duer & Koch Paper Company has been awarded the contract for furnishing the Government Printing Office with 20,000 pounds of yellow calendered tag board in 23¼" rolls, at 6.8 cents per pound, bids for which were received on May 19.

The Mathers-Lamm Paper Company will furnish 15,000 sheets of 24 x 36 white cloth lined paper at $50 per 1,000 sheets, bids for which were received on April 28.

Dismiss Wheelwright Complaint

WASHINGTON, D. C., May 31, 1933.—The Federal Trade Commission has dismissed a complaint which charged George W. Wheelwright Paper Company, Leominster, Mass., with certain misrepresentations of its products. Dismissal is ordered because the respondent is in the hands of receivers and the practices charged in the complaint have been discontinued.

H. E. Ruckert Joins Kleen Products

H. E. Ruckert, for 12 years vice-president and general manager of Sanitary Products Corporation of America, on May 1 became associated with the KLEEN PRODUCTS Company., North Wales, Pa., makers of a complete line of fiber spoons and forks, and paper plates, picnic packages, etc.

COST DEPARTMENT

Edited by Thomas J. Burke C. A.

Setting Sound Selling Prices*

By Nelson B. Gaskill[1]

I am not so presumptuous as to suppose that I can add anything to your stock of knowledge concerning the mechanics of accounting. Consequently, I shall make no attempt at sage counsel with reference to the computation of selling price nor the elements which are to be taken into consideration. Further, to clear the air, I assume that when you asked me to discuss the setting of sound selling prices, you were thinking of a sound selling price as more nearly related to the profit margin than to merely moving the volume of production.

In the practice of your profession, you must have been struck by the fact that the average business man relies on cost accounting not so much for the purpose of calculating a sound selling price as with the idea of keeping his costs below his sales return, and that his selling price is dictated not so much from a cost standpoint as from his own desire to move a larger volume of production or his necessity to meet a market price which some competitor has set for the same reason.

I suggest to you that the business man finds a scientifically sound selling price for any individual working in a competitive market, to be a practical impossibility unless (a) the commodity is covered by a patent monopoly or (b) there can be attached to the commodity, by advertising, a consumer acceptance of a quality element in it which will maintain the demand against lower-priced alternative commodities.

Reason for This Condition Is Simple

The reason for this condition is simple. We have characteristically thought in terms of production volume to obtain a low rate of production cost. We have thought of a selling price as something which would justify the production volume and capitalize the lowered production cost by moving the increased production. Selling price under these conditions, has not been and cannot be a deliberate and scientific computation. You have taught for years the control of production through a budgeting of sales probabilities based on a sound estimate of cost and profit requirements. So far as the general result is concerned you might as well have preached capitalism to the Soviet Republic.

But if your teaching has fallen on deaf ears, it is neither the stupidity nor the obstinacy of the business man which is responsible. He is confronted by two phenomena of exceedingly practical significance which bar his way to a sound selling price policy. I may be doing his thinking for him and formulating a defense which may not have taken outline in his own consciousness, but I want to show you his position as I see it. The business man does not object to your thesis; he knows it cannot work.

The first of these obstructive phenomena is the unpredictable price aberrations of competitors. The only approach to price stabilization which is possible among manufacturers in a highly competitive market arises from the similarity of costs and a general recognition of the level at which loss begins. It works through a sort of protective instinct. Other than that, each manufacturer let some part of his volume go, on one pretext or another, at a loss or at an insufficient margin of profit. He seeks a higher profit rate on the balance of his sales. Particularly as sales volumes, these price changes become more rapid and more severe.

Presupposes Uniform Computing Method

The only foundation for a sound selling price in manufacture distribution presupposes a uniform method of computing selling prices, with a strict requirement that the same elements of cost and of profit be taken into consideration at their proper, individual rates. For instance, suppose there were an absolute requirement operative over a whole of a particular industry, that the minimum selling price permitted any individual manufacturer at least equal the return of all costs; that by reason of a uniform accounting system, there was a common understanding as to the computation of costs. While the individual minimum prices might differ, yet each of those competitive selling prices would be soundly constructed. There could occur no displacement of one manufacturer using a sound selling price by another using an ax.

Unfortunately this supposition has now no foundation in fact. Manufacturer selling is a highly agile opportunism. It needs a seismograph to record its past and a crystal gazer to foretell its future. As a man said to me the other day, "You can't run this business on an ideal basis. If you do you will go broke." This man is no more deficit in ideals than he is lacking in intelligence, as his competitors will admit. Business men do not like this situation but they are individually helpless under it, since there is no procedure upon which it can be controlled through collective action. In some occult manner, this state of affairs is supposed to promote the public welfare.

It would be fortunate if this were the complete outline of the practical objections to a soundly conceived selling price structure but the worst is yet to come. If we assume

* NAC Bulletin.
[1] President, Lead Pencil Institute, Inc., Washington, D. C.

that the conditions required for sound selling prices obtain in the manufacturing group, the second phenomenon awaits attention. This is the complete breakdown of functional distinctions and the disregard of functional costs in the field of distribution. To make this clear to you, it will be necessary to take a hypothetical case.

A Supposed Case

We will suppose that John Jones, a bright young college graduate with no business traditions or experience, but with some capital, decides to go into business. He will make what are known as shelf goods. We will suppose that he is equipped with the most modern plant and machinery, a production engineer, a cost engineer, and an advertising manager and a sales manager. He is all ready to toot the whistle and start the wheels going around. He summons all his engineers and managers and tells them to work out a sound selling price, estimate a sales quota and calculate a production schedule, a sales dollar, a cost dollar and have them all ready for him next Monday. At that point someone asks him whether his price is to be based on the wholesaler or the retailer and then the trouble starts.

We will suppose he decides to go the traditional road and bases his price on the wholesale transaction. By some process he arrives at the conclusion that the wholesaler needs 15 per cent of his selling price and the retailer 25 per cent of his selling price. So he takes his own sound requirements as 60 per cent of the proposed price to the consumer. He calculates 100 per cent as his list price and quotes the wholesaler at 40 per cent off list. We will assume a good demand for his product. For the time being, his carefully selected wholesalers sell the retail trade at 25 per cent off list and retain their full margin of 15 per cent.

But into this Paradise comes Satan in the form of a large retailer. Not a fat man but a chain store, if you like. He talks in terms of carload lots, large volume of sales, no selling cost, nation wide distribution and quick turnover. While we are assuming miracles, we might as well assume another. This large retailer asks only the wholesaler's terms, 40 per cent off list, as a quantity discount. He gets these goods and he has a margin to play with. He can undersell the retailers buying from the wholesalers by about 15 per cent before he begins to trench upon the normal retail margin of 25 per cent.

This is where the assumption of miracles must stop. This retailer has nothing to gain by maintaining the list price and has no intention of maintaining it. The greater the reputation the commodity has as a nationally advertised brand the more certain it is to become the cut-price "loss leader" in the hands of this large distributor.

Following Events Backwards

Now let us follow events backwards. This particular oversize retailer cuts the price to the consumer. The effect upon other retailers of the commodity is immediate. They come back upon the wholesaler for a price which will enable them to meet this competition. The wholesaler passes the demand back to the manufacturer and unless the manufacturer can create by advertising a consumer demand strong enough to force the wholesaler and his retailers to handle the commodity at an insufficient margin or at a loss, his price structure breaks down, no matter how soundly it is constructed.

While he is wrestling with this problem Mr. John's Paradise is invaded by seven other devils. To him appear the purchasing agent of a large corporation, the manager of a buying syndicate of retail stores, the manager of a voluntary chain of retail stores, a contract jobber, etc. They sing one siren song through in divers tones; quantity buying and no selling cost, quick turnover and national distribution.

If Mr. Jones sells the consumer direct it must be on terms better than the retailer would give, else the purchasing agent has no justification for his existence. This is a wrong to the whole distributing trade. It sucks the life blood, a current which comes to them from the consumer sales. Finding their volume declining they are more than ever apt to seek to recover through cut prices. The buying syndicate which merely negotiates for prices places no orders. The member stores get the advantage of prices on quantities they do not sell and thus reap a margin with which to play. The manufacturer is saddled with the cost of selling each one of them. The members of the voluntary chain gain a similar position and the contract jobber with no overhead that is recognizable, plays hide and seek with the lot. This incoherent derangement is shot through with secret discounts, rebates, advertising allowances, commissions to sales men, free deals and what-have-you.

As sensible men, you will doubtless say that no sensible man would do all these things. You would be surprised! But let us suppose another miracle. Mr. Jones gets fed up with all this and goes back to a strict wholesale basis. Then he discovers that a great many wholesalers are also running retail establishments, and he has the same problem to meet in another form.

So far we have seen only the problems that arise out of Mr. Jones' actions. Let us throw in a few active competitors to make the picture completely haywire. We will give Mr. Jones credit for tying up the best wholesalers in the chief distribution centers, by exclusive dealing arrangements. So at least some of his competitors are compelled to drive directly at the retailers. Now unless the list price of these competing manufacturers are much the same as Jones and they preserve the same differentials as Jones by selling their retailers at 25 per cent off list, Jones retailers are shot as full of holes as a Swiss cheese. These competitors selling the retailer direct will retain the wholesaler's 15 per cent margin to cover the added cost of selling the retailer and they will have nothing to gain by not selling at least 30 per cent off list. They do so and a new resale price level is created. Jones can reduce his price or increase his advertising appropriation but either one puts a kink in his sound selling price.

A Law of Price Making

I think it can be written down as a law of price making that the validity of a sound primary selling price depends upon its projection through to the consumer by distributive agencies rendering the same functional service and incurring the same elements of functional costs. It is the underlying body of service costs equally encountered by all the distributive agencies involved, which carries through to conclusion the manufacturer's basic element in the ultimate consumer price. Of course, the violation of this law is destructive of the sound pricing of the distributor whose service cost is ignored when his function is disregarded. Sales to the retail trade direct, at prices which do not include the wholesaler's differential, wreck the wholesale trade.

In my opinion, this loss of recognition of functional service costs and their relation to a sound system of selling prices from producer to consumer, is a part of the confusion which was created in the mad rush for an increase in sales volume. This was a phase of the mass production movement, the search for lower costs to make lower prices to move an ever-increasing volume of production. Manufacturers naturally became obsessed with the one element of quantity in sales.

In the earlier days of our industrial development, the ordinary course of distribution was manufacturer to wholesaler to retailer to consumer. The jobber acted as a safety valve, handling seconds, odd lots, obsolete goods, excess inventories and the like. The significant fact is that the quantity buyer was characteristically the wholesaler or the jobber. The quantity discount and the wholesaler's trade discount were one and the same thing. Quantity buying by the retailer began with the department store but the merchandising operations of these stores were so limited that the quantity discounts received by them passed almost without recognition or notice. Then came in rapid succession the mail order house, the chain store, the buying syndicate and the voluntary chain, all retail operations. But they claimed and received as quantity discounts, the equivalent of the trade discounts formerly given for a different functional service, and the cost of this short-circuited functional service was thrown back upon the manufacturer.

Distress of Wholesaler Extreme

Naturally, the distress of the wholesaler under these conditions is extreme. He has either largely passed out of the picture in those parts of the country where the large retailing systems have become established or he has become by force of circumstances, a retailer also. This mistaken use of the quanity discount is now in an acute phase. Retail stores are banding together in voluntary chains. At least one of them now numbers more store members than the largest corporate chain. It is a contest for the appearance of the greatest quanity of sales as a basis for the largest quanity discount. The manufacturer is caught in a snare of his own devising. The drive upon him for price concessions is enormous. Chain must meet chain, the voluntary chain must meet the corporate chain and vice versa. The independent must meet them both.

As mass retail buying comes to dictate price terms to the manufacturer, it also throws back on him the cost of the wholesaling service. The manufacturer's prices go down and his costs go up.

If anything is needed to give a spicy flavor to this dish, we have only to add the supposition that Mr. Jones is primarily interested in nationally advertised, standard brands which encounter a number of lower-priced private brands being offered for sale at lower prices.

An Impressionistic Picture

This is a rather impressionistic picture of the deranged distribution system into which the manufacturer's sound selling price must go. I do not think it surprising that the manufacturer, or for that matter the dealer, should regard selling price as capable of no scientific improvement. Selling price is not static but fluid, it is not stable at any level nor is it constant with reference to a margin for profit. Net profit is a matter of average selling prices which are dictated by circumstances over which neither the individual manufacturer nor distributor has any control.

I assume that when you speak of sound selling prices, you are thinking of selling prices which, while not necessarily constant in amount, are at least always constant in relation to cost return and the necessary profit margin. Unless he has or can secure for his commodity a sufficiently strong consumer demand and avoid the flagrant, price-cutting distributors, the individual manufacturer can hardly hope for any better price-making methods than those which are thrust upon him by his competing manufacturers and by the different functional types of distributors.

I assume further, that you are not so much interested in a better pricing method for the individual as in the possibilities of the systematic use of better pricing methods both by manufacturers and distributors. If you are thinking in these terms, the implication is that you are thinking of production and distribution as a procedure capable of being organized, systematized and made subject to the statement of governing principles and rules. I beg you to note that if you are even beginning to think in these terms, you have abandoned the dogma of an unlimited freedom of competition as the source of the public welfare. You are thinking in terms of an orderly procedure, under the control of some established principle, directed at a perceived objective instead of a helter-skelter cross country race in which the only rules are that the fittest will survive and the Devil get the hindmost. If you have gone so far in your thinking, you have necessarily come to the point where objection, economic or legal, to what is commonly known as "restraint of trade" is untenable. You will, on the contrary, perceive the necessity for some very decided restraints upon the unbridled liberty of competition because you will be thinking of a regulated competition, the coordination of personal actions to produce a desired result.

A Startling Proposition

The proposition is rather startling to a conservative retention of traditions. But I ask you to imagine a system of production and distribution under which a sound pricing system operates throughout from producer to consumer, and to add to your mental picture, a certain continuity of employment, wages and purchasing power as the necessary consequence. Let us suppose that this scientific system represents the accepted tradition and some one proposes to overthrow it, to substitute an uncontrolled individual opportunism. He proposes to enforce the substitution by all the powers of government. The reaction to such a suggestion would be a well founded horror! But is it horrible to suggest a reversal of the picture?

Frankly, I desire to spur your thinking along this path. If you are going to do this, you will need perspective, you must see business objectively with the same disengaged impersonality as an engineer inspects a machine for defects. It is not men but methods that you must consider, not mankind but one of his inventions, a mechanism not conceived as a whole but a fabric loosely thrown together, as to the efficiency of which, mankind is beginning to be afflicted with doubt.

No one should know better than the qualified accountant that the conduct of any business is absolutely dependent upon the return through sales, of the equivalent of all expenditures as the minimum requirement. When this result is not obtained, a depletion of capital sets in. It may be arrested by the use of credit which merely postpones the required reconciliation. Credit is another cost charge which must be covered out of future sales return. Business is the use of capital which in use, must replace itself. If it does not, the use exhausts the capital. To you at least, this is axiomatic. It is so much a commonplace that we ignore the deliberate taking of losses, the occasional business failure just as healthy people ignore the minor current of continual sickness and deaths until sickness becomes epidemic. What alarms us in either case is neither the common fact nor its cause, but its sudden emphasis and extension.

A National Balance Sheet

It is seldom that we ever think of our business methods in their cumulative relation to a national or nation-wide balance sheet. When I speak of a national balance sheet, I do not refer to the condition of the United States Treasury. I mean the sum total of all of the infinite number

and variety of the uses to which money, capital, is put day by day, by all the people of this country. I have in mind all exchanges of money for the use of money, of money for property, of money for goods, money for amusement, money for labor and service. I am thinking of the productive and non-productive uses of capital, all involving either the replacement of capital or its depletion, in the individual account. I am thinking of the balance sheet upon which all these individual operations are theoretically entered as showing either a net loss or a margin for profit on the nation-wide operation. I am seeing this national balance sheet as though it were a financial statement which as a nation, we were required to present to a gigantic international bank at the end of each year, as the basis of the next year's credit. I think it is quite clear that this national balance sheet shows a net loss over a period of several years.

As an isolated phenomenon, one man's selling at a loss, one man's bankruptcy, causes no alarm. We accept it as a casual occurrence. But when the nation is operating at a loss, when the loss burden is likely to be transmitted to the Government, when taxation becomes a capital levy because taxes cannot be paid from a national profit, when every expenditure of money, derived from taxation for non-productive purposes which cannot be covered out of profits, becomes a depletion of the national capital, it seems appropriate to inquire whether the control of the national balance sheet is not after all, the promotion of the public welfare. Does not the control of the national balance sheet commence with some control over the methods commonly employed by individuals in their use of their part of the national assets? This thought also, is shocking to the highly individualistic concept of rights in which we have been trained. It is only in times such as these that we are willing to see that the exercise of rights entails consequences, though we may not like the consequences as well as we like the rights.

In this national balance sheet we are all inextricably tied up together. In a single store, a sale at a loss must be covered by another sale carrying a margin large enough to cover the loss and provide the necessary profit on both sales. The one customer is in effect, surcharged with more than the other's gain. So in the national balance sheet, the successful merchants must cover the losses entered by those who fail. On a still wider scale, profit earning industry must contribute an excess profit to cover loss producing agriculture or vice versa. The national balance sheet is a composite whose condition reflects back upon every individual whose operations contribute to it as all are conditioned by it. We can realize this fact only when the sum total of loss factors so generally and completely outweighs the elements of profit as at present. But it is this inevitable and universal dependence upon the state of the national balance sheet, which seems to me to invest its control with the very highest conceptions of the public interest and the public welfare.

We have been trained to think of the private profit as in some way reprehensible, a manifestation of greed, a proof of an undue and unjust exaction. There have been exaggerations of profit seeking. The perpetrators have been characterized as "malefactors of great wealth" and doubtless some of them were. But these exaggerations should not cloud our perception of a fundamental truth. In the capitalistic state, profit is a paramount necessity. If we could see the implications of the capitalistic system as clearly as the Soviet leaders see the implications of Communism, we should deny and resist the loss-taking operation as strenuously as they oppose private ownership and private profit. Our system cannot exist without the continued replacement of capital in use. Their system cannot exist if the use of private capital is permitted to develop private profit.

Consequently, if we are thinking in terms of a restatement of economic policy so as to permit the better price making with all that that entails, I submit that the governing principle should be the control of selling price by the requirement of the return of cost as the minimum below which, except for some necessary concessions, the individual selling price may not go. This is in effect, to trace the national calamity back to its beginning, in the loss-taking individual transaction and commence the reconstruction at that point.

Suppose we apply this rule to the two phenomena which now practically obstruct the systematic computation and use of better selling prices. First we will suppose the rule to be applied to the manufacturing group. Naturally this presupposes a uniform cost accounting system. It is more than likely that as each of these manufacturers for the first time comes face to face with a collection of all his costs, properly spread over his production volume and their relation to unit price with all margin requirements, so stated that each unit sold would return its due proportion of gross profit and gross margin, he would have heart failure. His successor would find quite a range of competitive prices. The pressure on all elements of waste, loss and non-productive activities would be immediate and enormous as well as effective. Everything would be subjected to the acid test of measurable return of cost. Competitive prices would no longer depend upon financial strength to sustain loss but upon ability and efficiency stated in terms of sound selling prices. The quality of the product would return to the sales argument. All that any manufacturer would have to fear from a competitor would be either a lower cost and marginal requirement on an equivalent commodity or an equivalent price on a better commodity. That is all he ever ought to be called upon to meet.

The derangement of the distributive mechanism, the complete breakdown of functional distinctions and their correlative elements of costs, has gone so far that any suggestion for its rearrangement must seem revolutionary. Some elements in this field have for the time at least, been markedly successful but largely because they were not obliged to meet an irreducible cost minimum. Their overhead, particularly in the form of rent, was high, sometimes excessively so. They achieved a lessened operations cost and a higher turnover rate, but in the main they pushed back the prime cost, as well as some of the cost of wholesaling, upon the manufacturer. They will not encounter the irreducible prime cost until they reach the point where the manufacturer can concede no more in price and quality or they take on manufacture.

If, however, we close the limit of manufacturer price concessions by his cost requirements and this prime cost plus the distributor's cost become his resale price minimum, the distributor stands on a parity with the manufacturer with an established, irreducible cost.

As between retailers of the same commodity in the same trading area, there will be conflict unless differences in resale prices represent only differences in overhead and operating costs. Difference in cost subsequent to prime costs of the delivered commodity becomes a legitimate competitive advantage, whereas differences in the prime cost of the commodity become unjust discriminations. As no retailer is entitled to the true "trade" discount which belongs to the wholesaler, all secret discounts, rebates, concessions and allowances not for measurable and measured service, go by the board. Here we must take the

(*Continued on page 47*)

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Fort Worth, Tex.—The Magnolia Paper Company, 601 East Second street, manufacturer of paper goods, is planning an expansion program at plant, with installation of additional equipment. Work will be placed under way at early date. No estimate of cost has been announced. Frank H. Tuscany heads the company.

Brooklyn, N. Y.—The Edison Can Corporation, recently organized with capital of $20,000, by Ralph Prete, 5421 avenue O, Brooklyn, and associates, is said to be planning early operation of new local plant for the manufacture of a line of paper containers, including paper cans, cartons, etc. Giuseppe Puglisi, 172 Snydam street, Brooklyn, is one of the incorporators of the new company.

Kankakee, Ill.—The Fibre Drum Corporation, Kankakee, is concluding a remodeling and improvement program at local factory, recently acquired for a new plant, and will soon occupy for the production of fiberboard products of various kinds, including drums and other containers. T. E. Schultz is president.

New Brunswick, N. J.—J. Lapelosa, 171 Remsen avenue, paper manufacturers' supplies, paper stocks, etc., has asked new bids on general contract for proposed new plant on Georges road, previously referred to in these columns. It will be two-story, brick and steel, 60 x 130 feet, with basement, and will be equipped for paper converting, storage and distributing service. It is reported to cost close to $40,000, with equipment. H. G. Bach, 63 Shureman street, New Brunswick, is architect.

Wilmington, Del.—The duPont Cellophane Company, Hart and Rutter streets, Wilmington, manufacturers of transparent wrapping materials, is holding to a capacity schedule at its different mills. An increased wage schedule, averaging about 5 per cent, will become effective in all departments on June 1.

New York, N. Y.—The Newell Novelties, Inc., 329 East Twenty-ninth street, manufacturer of paper specialties, has arranged for change of company name to the Waring Envelope Company, Inc.

Richmond, Va.—The Fibreboard Container Company, Richmond, is running on an increased production schedule, with larger number of workers in different departments. The company is said to have secured some substantial orders, insuring present basis of output for some weeks to come.

Niagara, Wis.—The Kimberly-Clark Corporation, North Commercial street, Neenah, Wis., has steel work well in progress for remodeling and improvement program at mill at Niagara, to provide increased facilities in machine and finishing departments. It is proposed to complete the work in June. No estimate of cost has been announced. General contract was recently let to Fluor Brothers & Smith, 48 Otter street, Oshkosh, Wis.

College Point, L. I.—The Lily Tulip Cup Corporation, College Point, has arranged for increased production schedule at local paper cup manufacturing plant, with larger working quota. A night shift has recently been started, in addition to regular day operations. Improved schedule will be continued for some months to come.

Middletown, Ohio.—The Fairbanks Fiber Box Company, Yankee road and Baltimore & Ohio Railroad, manufacturer of fiberboard boxes and containers, is awarding miscellaneous contracts for completion of new addition to mill, recently referred to in these columns, including brick, steel sash, etc. Structure will be one-story, 75 x 130 feet, and is reported to cost over $25,000, with equipment. It will be used for general expansion. Hillsmith & Company, 108 East Third street, Dayton, Ohio, are engineers, in charge. Erection will be carried out by day labor.

New Haven, Conn.—The Universal Seal Cap, Inc., recently organized with capital of $50,000, plans operation of plant for manufacture of cardboard caps for milk bottles and other containers, etc. New company is headed by W. E. Chollar, Stratford, Conn., and R. J. Hungerford, Bedford avenue, Milford, Conn.

Chicago, Ill.—R. C. Hauf & Company has been organized with a capital of 200 shares of stock, no par value, to manufacture paper boxes and containers. New company will take over and succeed to the concern of same name, with plant at 214 North Clinton street. The incorporators include Russell F. Locke and Rufus D. Beach.

New York, N. Y.—The New York Blanking Corporation has leased space on the seventh floor of the new building of the Port of New York Authority, Eighth avenue, and will occupy new plant for production of cut paper stocks, converting and other operating service. Portion of space will be used for storage and distribution service.

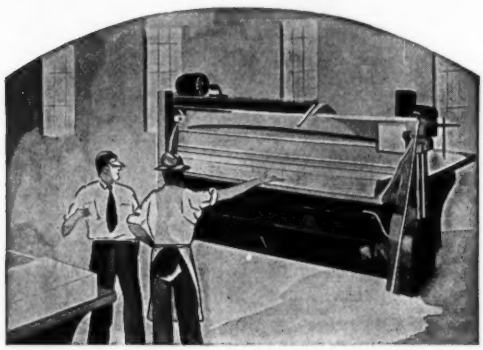
Watertown, N. Y.—The Jewell-Peck Paper Corporation, manufacturer of paper goods, has arranged for change in company name to the Jewell Paper Corporation.

Orange, N. J.—The Pulp Bleaching Corporation, 200 Fifth avenue, New York, has leased a building at 44 Main street, Orange, owned by the Shepard Properties Company, and will remodel and improve for early occupancy. It will be used for operating and office service.

Cleveland, Ohio.—The Industrial Rayon Corporation, West Ninety-eighth street, manufacturer of cellulose rayon products, is maintaining a full 24-hour day production schedule at local mill, as well as at branch plant at Covington, Va. A full working quota is engaged in all departments. Company has secured business to insure continuance of this schedule for next sixty to ninety days, if not longer.

New Companies, Etc.

Brooklyn, N. Y.—The Denfil Paper Company, Inc.,



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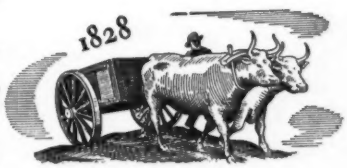

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has been chartered with capital of 100 shares of stock, no par value, to manufacture and deal in paper goods of various kinds. The incorporators include Charles E. Densen, 1081 East Fourteenth street, and Saul Rubin, 1550 Fifty-fifth street, both Brooklyn.

Providence, R. I.—The Rhode Island Container Company has been incorporated with a capital of $25,000, to manufacture and deal in paper containers, cartons, etc. The incorporators include Arthur H. Feiner and V. A. McGee, 17 Minnesota street, Providence. Last noted company representative.

Chicago, Ill.—The Chicago Binder and File Company, 607 South Dearborn street, has been organized with capital of $25,000, to manufacture and deal in paper filing devices, cardboard binders and allied products. The incorporators are John W. Chesney and T. R. Meredith.

New York, N. Y.—The Davalmac Paper Company, Inc., has been incorporated with capital of $20,000, to manufacture and deal in paper goods of various kinds. The incorporators include George Weisbrod and Charles Scheckner. New company is represented by Bernard H. Legunn, 521 Fifth avenue, attorney.

Indianapolis, Ind.—The National Paper Stock Company, 320 West Michigan street, has filed notice of company dissolution under state laws.

Middletown, Conn.—The Middlesex Bag and Paper Company has been incorporated with capital of $50,000, to manufacture and deal in paper bags and other paper containers. The incorporators include Mayer Mazer and F. Mazer, both of East Haddam, Conn.

New York, N. Y.—The Princeton Paper and Twine Company, Inc., has been incorporated with capital of 100 shares of stock, no par value, to deal in wrapping and other papers. Irving Bloomberg, 1428 Lincoln place, Brooklyn, N. Y., is principal incorporator.

J. Kindleberger Expresses Optimism

KALAMAZOO, Mich., May 27, 1933.—Jacob Kindleberger, president of the Kalamazoo Vegetable Parchment Company, told the 120 diners at the annual meeting of the Kalamazoo Chamber of Commerce this week that there was a definite, optimistic outlook for the industrial and business future of the country.

There seems to be a feeling that the "captain of the ship knows his business," Kindleberger said, "and that Roosevelt is growing tremendously in the esteem of the nation".

The speaker pleaded for faith, confidence and trust, without which, he said, there would be no recovery. He also predicted that the "vicious minority" in every group that traded on its labor in restricted wages would be "given a swift kick in the pants" by the administration.

Norwegian Pulp Exports Less

Both paper and pulp exports from Norway are under those for the corresponding period last year according to a report from Commercial Attache M. H. Lund at Oslo, but forward sales of pulp are rather large, and the industry as a whole is able to operate at capacity, within the limitation imposed by the European cartel. There are exceptions, of course, among the weaker mills, while those in a strong position report more business than can be accepted under their production quota. The paper market is somewhat less active, and new orders are now difficult to secure for the reason that the developments in the international exchange situation have created a feeling of uncertainty. Some measure of stability must be restored before there can be any turnover approaching normal proportions.

Indianapolis Paper Market Firm

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., May 29, 1933—Everybody here in the paper business seems to believe that business is picking up, but when you ask them just how much increase they have had, there is a little hesitancy about admitting actual business increases, though in some instances there have been some. But since everyone seems to think the tide has turned, perhaps this in itself will mean that it has, even though actual evidences of the turning are not yet manifest.

Activity in summer specialties has shown some decided increase due to the coming of really hot weather, the first of the present year. Tissues, paper plates, napkins, cups and similar merchandise are moving fairly well. There was little carry-over from last year on the part of retailers due to close buying, therefore they have been forced into the market regularly. They are continuing the old hand to mouth buying policy and any increase in demand is reflected almost immediately on the wholesaler.

In spite of actual price increases being scarce, there seems to be a stability about the price level that is encouraging. A demand for fine paper seems to be coming from more sources. Individual orders are small, but there are a few more, and re-orders are more numerous. It is believed that higher postage prices have done more to hold back direct by mail advertising than the depression. Regardless of the cause, the paper merchants have felt the absence of this possible market. Kraft seems to be in fair shape, is continuing steady and demand is believed to be improving.

A distinct improvement was noted last week in demand for news print. The smaller industrial centers of the state particularly seem to have benefited from increased employment and newspapers have secured considerable more advertising as a result. Containers are moving fairly well, with increased demand from numerous industries. The coming of summer has increased the container demand from ice cream and similar sources.

News of the Wisconsin Paper Industry

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., May 29, 1933—Logging operations are to be carried on by the Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis., on new timber holdings near Morse, Wis. The company recently purchased eighteen 40-acre tracts from the Antigo Lumber Company, Antigo, Wis. A camp is being established which will employ about 50 men. The timber will be hauled to Morse for shipment by rail.

Rebuilding of the plant of the Menasha Mill Supply Company, recently destroyed by fire at Menasha, Wis., will be started shortly, according to F. M. Rosenthal, manager. The plant is a branch of the Aetna Waste Paper Company, Chicago, Ill. Production was restored quickly in temporary quarters near the former plant, and 30 workers are now employed, a few more than were employed at the regular plant. The company's loss was estimated at about $30,000.

Proposed curtailment of operations of the U. S. Forest Products Laboratory at Madison, Wis., probably will not be carried out if efforts now being put forth are successful. Senator F. Ryan Duffy, of Wisconsin, has asked the appropriation of $300,000 to the laboratory out of the funds set aside for federal forestry, and was informed that President Roosevelt is favorable to the proposal. The nation wide work of the laboratory and its benefit to industries using wood were cited as reasons for keeping its research work up to the usual pace and standards.

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IMPRESSIVE BUSINESS ADVANCES

The last month has witnessed the most impressive advances in business activity and in price level since the beginning of the depression says the Guaranty Trust Company of New York. Thus far the clearest evidences of recovery are largely confined to the heavy industries and to security and basis commodity markets, but scattered reports indicate that constructive influences have also been felt in other branches of business where comprehensive statistical information does not become available so promptly as in the lines just mentioned. Particularly encouraging are the numerous instances of increased employment and higher wage rates that have been reported from all parts of the country.

Under the circumstances, it is inevitable that the question should arise to what extent the recent improvement is due to normal expansive forces and to what extent it is attributable to commodity hoarding inspired by the fear of currency and manipulation. This question—which is, unfortunately, very difficult to answer—is vital in its bearing on the outlook for the future. In so far as the current expansion represents a response to natural recuperative forces, its significance is wholly favorable.

The first and most obvious consideration that comes to mind in this connection is the fact that no money or credit expansion has yet taken place. Although the Federal Reserve banks increased their holdings in Government securities by $25,000,000 during the week ended May 24, the advance was more than offset by decreases in other forms of Reserve credit. If inflation has played any part in recent developments, it has done so only by anticipation. That may tend to indicate that the recovery is based on sound and natural grounds, or it may simply show how extremely sensitive the price structure is to any doubts that arise concerning the stability of the currency. To the extent that the latter is the case, it may well be given most careful consideration by those who have assumed that inflation, or "reflation," is a simple and controllable process whereby prices can be raised to a desired level by forcing a limited amount of new currency or credit into circulation.

There are, nevertheless, several reasons for believing that the recent signs of improvement reflect, in part at least, the operation of genuinely constructive factors in the underlying situation. One is the simple historical fact that the recession has already continued well into its fourth year. Seldom, if ever, in the past has a violent and continuous downward reaction extended over such a long period without effecting the necessary readjustments and laying the groundwork for a sound recovery.

This view is strengthened by a recollection of the revival that began last summer and attained considerable momentum before it was halted by a combination of factors, prominent among which was the growing distrust of the banking situation. This obstacle now seems to have been removed. It is not unreasonable, therefore, to regard the current expansion as the continuation or the resumption of an upward movement that really began almost a year ago.

It may be significant also that the movements of prices in the last few weeks have become increasingly independent of the fluctuations of the dollar in foreign-exchange markets. When the price advance began, it seemed to be primarily a function of dollar depreciation. This is no longer clearly the case. The dollar has shown signs of greater firmness in terms of gold-standard currencies, but prices in this country have continued to rise. Furthermore, the aggregate advances in prices of some of the most important domestic and international commodities have considerably exceeded the depreciation of the dollar from its gold parity.

In conjunction with these favorable reflections, the fact that a substantial upturn in business has taken place without any appreciable monetary manipulation appears truly encouraging. President Roosevelt has announced that the extraordinary powers conferred upon him by the "inflation" amendment to the farm bill will be exercised only when, as, and if they seem to be required. There is ground, therefore, for the hope that the current improvement may proceed with sufficient momentum to forestall the use of these drastic and dangerous experiments in currency tinkering.

As time goes on, the scope and magnitude of the advance in business activity become more apparent. Most of the basic industries, including steel, automobiles, bituminous coal, electric power, lumber, and some branches of the textile industry, have already risen above the levels of a year ago. Railway freight loadings have exceeded the total for the corresponding period of the preceding year for almost the first time since the depression began. Department-store sales increased in April by much more than the usual seasonal amount. Most significant of all, factory employment and payrolls increased last month, contrary to the usual

April trend. The increases over the March figures were moderate, particularly in view of the abnormally depressing influence of the banking holiday. Recent reports from various industries, however, indicate very strongly that the upward tendency has gained momentum in the last few weeks and that the figures for May will show substantial gains.

Improvement has also continued in the financial situation. The exchange value of the dollar has shown increasing firmness. The withdrawal of currency from hoarding has proceeded to a point where the sharp increase in circulation immediately prior to the banking holiday has largely disappeared. Gold reserves of the Federal Reserve banks stand at the highest total on record. The rediscount rate of the Federal Reserve Banks of New York was reduced on May 25 from 3 to 2½ per cent. The banks open and operating without restrictions are estimated to represent 90 per cent of the banking strength of the country, as measured by deposits; and the 5,000 or more banks that are still under restrictions are being rehabilitated as fast as conditions permit.

The most striking feature of the rise in commodity prices is the fact that, thus far, it has affected chiefly the prices of basic raw materials. The wholesale price index of the Guaranty Trust Company, which is based on prices of twenty-three commodities of this class, advanced 32 per cent between February 15 and May 15, while the weekly index of the Bureau of Labor Statistics, which is based on 784 commodities of all classes, rose only 4.5 per cent between March 4 and May 13, the latest date for which an index number is available.

This comparison is in line with the usual experience, inasmuch as fluctuations in prices of raw materials almost always occur earlier and are more violent than those in manufactured commodities. Some authorities are of the opinion that the drastic decline in prices of leading raw materials in recent years has been one of the major factors in prolonging and aggravating the depression and that a sustained advance in such prices, unless it arises from artificial currency manipulation, will be among the most definite indications of genuine business recovery.

Even a cursory examination of the new laws and the bills now pending must impress the observer with two facts of basic importance. The first is that the relation of government to business has, for the time being at least, undergone a fundamental change. The second is that the Federal Administration has been given an extraordinary degree of latitude in the formulation of policies. Some commentators have gone so far as to regard these changes as constituting a political and economic revolution.

The modern economic system is both vast and complex, and its precise workings are beyond the comprehension of any individual or group. The Government, in assuming the responsibility of regulating its operation, is indeed taking a bold step. Not only must there be assurance of protection against the terrific temptations to corruption inherent in the grant of such sweeping powers, but the public service must be kept free from the inefficiency and indifference that always tend to crop into governmental bureaus. The successful administration of such a program will require integrity, intelligence, and alertness of the highest order. The laborer and the consumer must be protected against exploitation and the minority against oppression. At the same time, efficiency must be permitted to enjoy its rewards and inefficiency to suffer its penalties; otherwise, the incentive to effort will be removed, and industrial progress will cease. Demagogic appeals and selfish group interests must be encountered and combated at every step.

To meet these stringent requirements with reasonable adequacy would appear to demand a higher grade of public service than has ever been achieved in the past. And for every error, every miscalculation, every failure of the system to function according to expectations, the blame will fall squarely on the shoulders of the Government. It is not without reason that men of practical experience in economic affairs have consistently demanded that business be kept out of politics. The industrial recovery bill, if enacted, will carry business into politics on a scale unprecedented in this country.

Despite these disquieting considerations, the attitude of industrial leaders toward the bill is by no means one of unmitigated hostility. After more than three years of ever-deepening depression, there is a fairly wide-spread disposition to try the experiment, with its recognized dangers and pitfalls, rather than to risk an indefinite continuation of the almost intolerable conditions of the recent past. Even before the passage of the bill, leaders in the electrical equipment industry have signified their intention to avail themselves of its provisions. If the trial is even reasonably successful in achieving its declared aims, it will bring relief to all groups. If it fails, it can be abandoned with less permanent damage than some of the other economic experiments that are about to be tried.

Fairbanks Fibre Co. Builds

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, May 29, 1933—The Fairbanks Fibre Company, Middletown, is proceeding with its contemplated building improvement, the construction of a one-story brick structure, to be added to its present plant, which is located at Yankee Road and the Baltimore & Ohio Railroad. It is understood the building will be used largely for storage, increased facilities in this direction having been needed by this firm for some time.

Although the construction of the addition may not mean the immediate employment of a larger force of workmen, the fact that when it is completed the firm will have greatly enlarged storage facilities, will make possible greater activity in the manufacturing department of the industry.

The Fairbanks Company manufactures fiber products which at present are in fair demand. Some time ago it was decided to build a structure costing at least $10,000, and now that work on the excavation has been completed and the construction work will be pushed as speedily as possible, one of the company's plans for enlargement will have been carried out, with others possibly to follow, depending upon the improvement in business conditions.

When it appeared a short time ago that trade would go steadily forward, supported by firm Administration methods, the Fairbanks Company decided to delay no longer in its improvement plans and awarded a contract for the construction of the storage buildings, with the stipulation that the work should be pushed to rapid completion.

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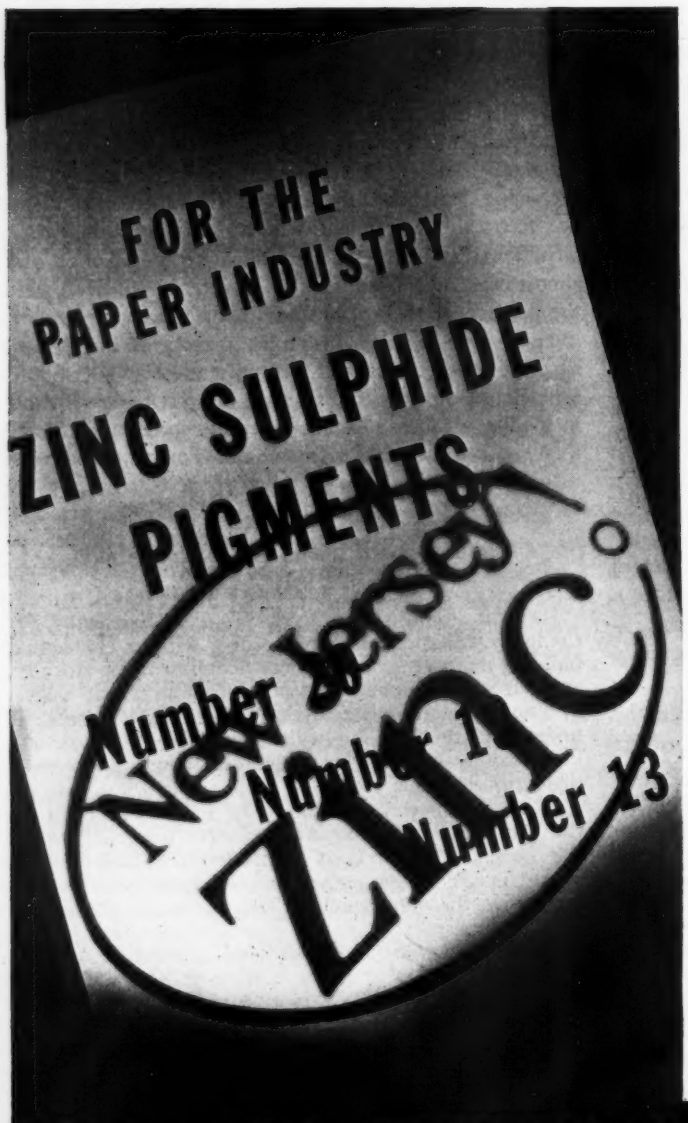

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Machinery

The Photo-Cell in the Paper Industry. W. Schmid. Papierfabr. 30, No. 26: 425-26 (June 26, 1932).—Several examples of the possible use of the photo-cell in the paper industry are described. The more important are, immediate notice of a break at the couch, rejection or sorting of paper sheets, guide instrument for cutters, sorters and printing presses, etc.—J. F. O.

Agitators for Board Cylinder Machines. Merkur. Wochbl. Papierfabr. 63, No. 40: 744-45 (Oct. 1, 1932).—Agitators are necessary for board cylinder machines but superfluous for cylinder washers. Discusses the correct position and design of agitators for cylinder board machines.—J. F. O.

Suction Roll for Paper and Similar Machines. Max Wenzl. Ger. pat. 551,387 (Dec. 17, 1929).—A table roll is so arranged that it revolves within a compartment under suction, the upper side of the compartment consists of the adjoining rolls. In this manner the severe wear on the wire is eliminated.—J. F. O.

Mixer for a Consistency Regulator. Gustav Kammerer. Ger. pat. 551,386 (Feb. 17, 1929).—J. F. O.

Arrangement for the Mechanical Removal of Particles of Dirt from a Sheet of Pulp or Paper. Karl G. Grupp. Ger. pat. 553,219 (Feb. 5, 1931).—A source of light is provided under the sheet, the dirt particles passing over it, change the intensity of the light received by a photo electric cell placed above the sheet.—J. F. O.

Wire and Felt Regulator. Arthur Schubert. Ger. pat. 553,335 (Feb. 4, 1928).—J. F. O.

Machine for the Removal of Solid Materials Suspended in Water, by Means of Two Endless Wire Cloths. A. Bol. Karlstads Mek. Verkstad, Karlstad. Swed. pat. 73,535 (March 30, 1929).—J. F. O.

Process for Blowing Out the Contents of Pulp Digesters Into Diffusers. F. I. F. Gothner. Nor. pat. 49,582 (July 17, 1929).—For the purpose of decreasing the steam formed in a diffuser, the heat from the pulp blown is removed. The steam is passed through a separator before its entrance into the condensation apparatus for the purpose of removing liquor and parts of the stock carried with it; so that a pure condensate is formed which is suitable for washing the pulp. After the pulp is blown, a certain amount of relatively cold liquor is used for washing the pulp and condensing the steam.—J.F.O.

Machine for the removal of static. C. G. Haubold. Wochbl. Papierfabr. 63, No. 30: 576 (July 23, 1932).—The machine ionizes the air through which the web of paper passes by means of high tension electrical current and a system of knobs. Illustrations and a description of the apparatus is given.—J.F.O.

Working Speed of a Paper Machine. Reifegerste. Wochbl. Papierfabr. 63, No. 29: 549-60 (July 16, 1932).—The author briefly describes the various factors which effect the production of a machine.—J.F.O.

A Shake Free from Jolts. Wochbl. Papierfabr. 63, No. 29:552 (July 16, 1932).—An arrangement which removes the jolt in the shake is illustrated and described.—J.F.O.

New Special Scales for Mill Control in a Paper Company. W. Kratschmar, Wochbl. Papierfabr. 63, No. 32:609-10 (Aug. 6, 1932).—Description of several new scales for basis weight determination.—J.F.O.

Machine Brushes in the Paper Industry. Wochbl. Papierfabr. 63, No. 37:696 (Sept. 10, 1932).—General information concerning brushes in the paper industry, and particularly those brushes made by Firma H. Kuhn, Berlin-Pankow.—J.F.O.

A Modern Continuous Cutter. Goy. Wochbl. Papierfabr. 63, No. 31: 590-92 (July 30, 1932).—A description of the new cutter manufactured by Firma A. G. Haubold, Chemnitz.—J. F. O.

Arrangement on Press Rolls Provided with Transverse Grooves for Ground Wood, Pulp and Similar Substances. R. E. Wanger. Swed. pat. 73,319, (March 15, 1929).—The bottom of each groove has one or more raised parts of such form and size that they do not extend to the circumference of the roll. The grooves have a width over 3 mm.—J.F.O.

Device for Stretching Paper Machine Felts in the Transverse Direction. A. W. Svard. Swed. pat. 73,320 (Feb. 17, 1930).—J.F.O.

Arrangement on a Cutter for Paper and Similar Materials. G. Strecker and Th. Gockel. Swed. pat. 72,885 (Jan. 14, 1929).—J.F.O.

Excavator for Removing Pulp from Blow Pits. E. G. Wiman. Swed. pat. 72,893 (Nov. 28, 1928).—J.F.O.

Device for a Horizontal, Rotating Oven for the Thickening of Liquids. A. Bo. Karlstads Mek. Verkstad. Swed. pat. 73,297 (March 4, 1930).—The liquid to be thickened is introduced into the oven where it comes in contact with hot gases.—J.F.O.

Digester Blow Pit. C. A. Geijer. Swed. pat. 73,407 (Aug. 22, 1927).—The floor of the blow pit is slightly inclined and a screw conveyor is provided.—J.F.O.

Device for the Feed of Granular or Fibrous Materials into a Compressed Air Duct by Means of Bucket Wheels. Firma J. M. Voith. Aust. pat. 125,346 (June 15, 1931).—J.F.O.

Suction Roll for Paper Machines. Eugen Kutter. German pat. 534,870 (Aug. 11, 1928).—The suction roll consists of three rolls revolving upon each other, in such a manner that they form an air tight suction compartment.—J.F.O.

Cutter With One or More Revolving Knives for Use with a Uniform Moving Web of Paper or Similar Materials. G. Strecker & Th. Gockel. Aust. pat. 125,067 (June 15, 1931).—J.F.O.

Suction Roll for Paper and Similar Machines. Max Wenzel. Aust. pat. 125,070 (June 15, 1931).—The machine wire is carried by rolls under which suction troughs are arranged.—J.F.O.

Digester Blow Pits and the Removal of the Pulp Therefrom. W. Schmid. Papier-Fabr. 30, No. 19: 304: 305 (May 8, 1932).—Various methods for the removal of the pulp from the blow pits are described, including all-mechanical methods and washing out and combinations of both. Especial attention is given to the method of Gejer, of Skoghal, Sweden.—J.F.O.

Strainer for Pulp Digesters with Forced Circulation, for the Reversible Circulation of the Cooking Liquor. Einar Morterud. Ger. pat. 548,557 (July 14, 1931).—J.F.O.

Arrangement for the Regulation of Shunt Motors for Winder Devices. Siemens Schuckertwerke A. G. Berlin-Siemensstadt. Ger. pat. 548,146 (May 14, 1929).—The invention concerns itself with an arrangement for the regulation of shunt motors for winder devices, by which a resistance in series with the field is cut off and on by a relay with current and potential coil.—J.F.O.

Arrangement on a Cylindrical Rotating or Vibrating Vacuum Drying Apparatus. A. E. Johnsson. Swed. pat. 73,454 (Feb. 15, 1928). Addition to Swed. pat. 70,968.—J.F.O.

Heating the Web of Stock and Warm Air Ventilation with a Pulp De-Watering Machine. W. Brecht and F. Haury. Wochbl. Papierfabr. 63, No. 23A: 14-19; No. 25: 483-85; No. 27: 514-17 (June 4, 18, July 2, 1932). Accurate experiments and calculations have been made on heating the web of stock by means of warm water, increasing the temperature from 16 to 44°C. and thus increasing the drying capacity 16.3 per cent. However 14 per cent more heat was consumed by using warm water, never-the-less other advantages made its use desirable. The use of warm air was uneconomical because of the large quantities necessary, it is better to use more drying surface.—J. F. O.

Process for Obtaining a Suitable Concentration of a De-Watered Stock Mixture. K. Y. Sundblad. Fin. pat. 13,956 (June 6, 1930).—J. F. O.

The Fan Dryer, a New Drying Apparatus for Pulp. Togo. Wochbl. Papierfabr. 63, No. 39:729-31 (Sept. 24, 1932). The author first mentions the disadvantages of the present method of drying and then goes on to describe a new system, manufactured by the A. B. Svenska Flaktfabriken, Stockholm, the first installation of which is in operation at the new sulphate mill in Ostrand. This system has satisfied all claims as to the increase in the quality of the pulp and a saving of from 20 to 30 per cent steam over the drying cylinders. The Fan Dryer consists of an isolated enclosed chamber through which the pulp is led and dried by means of hot air. Details of operation and construction are given.—J. F. O.

Drying Apparatus. A. Bol Svenska Flaktfabriken. Fin. pat. 13,971 (April 12, 1929). The drying apparatus consists of two horizontal drying canals arranged between bodies and housed in a chamber. Air is circulated by means of ventilators.—J. F. O.

Causes for the Difference Between Manufacturer and User of Drying Apparatus and Installations and How Such Disputes can be Avoided. J. Vogel. Papier-Fabr. 30, No. 27: 435-38 (July 3, 1932). By means of a practical example the author shows what are the important facts to give strict attention to. The importance of precise conditions of the guarantee is shown.—J. F. O.

Rotating De-Watering Screen Cylinder for Pulp and Similar Materials. John Stridlund. Nor. pat. 49,538 (June 11, 1929). The screen cylinder which is partially submerged in the mixture of stock and water contains cells or compartments on its circumference under the screen. By means of a suction tube water is drawn through these cells to the interior of the cylinder.—J. F. O.

Process and Arrangement for the Removal of Water from Pulp Cooked in a Digester. Karl Rieth and Aktiengesellschaft fur Zellstoff und Papier Fabrikation. Ger. pat. 548,890 (March 30, 1928). The pulp is led through a couch press in such a thickness, about 8 cm., that the knots are not crushed and in this manner high pressures can be used on the press.—J. F. O.

Screen, Especially for Paper Stock, with a Rotating and if Necessary, with Shaking Screen Cylinder for Exterior Separation. A. C. Andersen & Arne Schie. Ger. pat. 548,036 (July 20, 1929).—J. F. O.

The Effect of a Pair of Steel Rolls on Different Kinds of Paper. O. F. Günther. Pulp Paper Can. 33: 289-292, 337-338 (Aug., Sept. 1932).—The effects of calendering on the thickness and strength of paper is discussed mathematically, and experimental data are presented in support of the formulas deduced.—A. P.-C.

Wood Room

Stacking and Reclaiming System for Pulp Wood. John Stadler. U. S. pat. 1,856,118 (May 3, 1932).—Stacking of the wood and reclaiming of the stacked wood are both accomplished by means of a single rotating boom conveyor of the cantilever type having a power driven stacking and reclaiming cable conveyor element, which is arranged to co-operate, during the reclaiming operation, with auxiliary conveyors located in suitable troughs underlying the stacked wood. The boom and conveyor elements are arranged and operated in such manner that the wood, during the reclaiming operation, is returned to substantially the same point from which it is conveyed during the stacking. The boom is equipped with inner and outer sets of supporting wheels arranged to travel on inner and outer concentric circular tracks, the wheels of one set being positioned substantially at right angles to those of the other set, one set of wheels being free to move along the co-operating supporting track in a direction to compensate for expansion and contraction.—A. P.-C.

Device for Removing Bark from Logs. John M. Council. U. S. pat. 1,873,697 (Aug. 23, 1932).—A series of hammers are provided which give progressive blows to

the bark as the log is being revolved, and substantially in a spiral manner so that all parts of the bark are subjected to continuous blows whereby it will be readily peeled off. The log is supported and revolved by means of an arm which is adjustable towards or away from the hammers to compensate for various diameters of the logs, the arm being provided at its inner and supporting end with spaced rollers carried by links or brackets pivoted intermediate their ends on the arm, so that when the logs are dropped in place the rollers will automatically fall into supporting position for the logs.—A. P.-C.

Barking of Wood Used for the Manufacture of Paper by Means of Chemicals. Carl G. Schwalbe. Wochbl. Papierfabr. 63, No. 23A: 19-21 (June 4, 1932). The felled tree is first roughly barked in the forest and then it is completely barked at the pulp mill with special machinery. This final barking becomes more difficult, the longer the wood is stored. The substance holding the wood and bast together can be dissolved; in coniferous woods where it concerns hexoses mostly, this occurs by acid hydrolysis, (HCl or H_2SO_4 solution for ½ to 2 hours), but this method is not suitable for pines rich in resin. The deciduous woods, which contain more pentosanes which are difficult to hydrolyze, must be partially cooked with 0.1 to 0.5 per cent NaOH.—J. F. O.

Hand Barker. Robert Lagus. Fin. pat. 14,097 (March 28, 1930).—J. F. O.

Barking Machine. H. Vogl. Fin. pat. 14,098 (April 15, 1930).—J. F. O.

Arrangement for Several Barking Drums Arranged in Series. A. J. Johnsson, and Sten Bergstrom. Fin. pat. 14,010 (Aug. 29, 1929).—J. F. O.

Process for Cutting Up Wood, Wood Refuse and Similar Materials, as Well as the Arrangements Therefore. Jonas Jonsson. Fin. pat. 14,030 (July 22, 1930). —J. F. O.

Arrangement for the Barking of Long Pieces of Wood. A. G. Johansson. Swed. pat. 73,626 (Aug. 6, 1929).—J. F. O.

Process for Barking of Long Pieces of Wood in a Drum. A. G. Johansson. Swed. pat. 73,438 (July 29, 1929).—J. F. O.

Rossing Machine. Hakon A. Ganes and William Kilde. U. S. pat. 1,881,465 (Oct. 11, 1932).—The log is rotatably held at its ends by means of an axial pivot and a chuck, respectively, mounted on two vertical standards, the one carrying the chuck being stationary and the other adjustable to accommodate logs of different lengths. The rossing instrument proper consists of specially designed rapidly rotating hammers which operate to pound off the bark in small chips. It is mounted on a carriage which is displaced longitudinally along a shaft parallel to the log and which can be adjusted towards or away from the log according to the diameter of the latter.—A. P.-C.

The Feeding of the Wood in the Evolution of the Chipper. Hans Bomcke. Papier-Fabr. 30, No. 23: 369-75 (June 5, 1932). By means of numerous illustrations and diagrams the author shows the correct design for the spout in the chipper. A valuable addition to the knowledge of chippers.—J. F. O.

Recent Problems in the Recovery of Fibrous Materials in the Manufacture of Paper and Methods for Its Solution. Roland Runkel. Tech. Chemie Papier Zellstoff Fabr. 27, No. 6: 81-88; No. 7/8: 97-110 (July 12, Aug. 2, 1930). The author first stresses the economic importance for the conservation and recovery of all fibrous materials. The barking of the wood, the problem of yield and quality of pulp, the preparation of the stock for the paper machine, the throw-outs and refuse, and the raw materials, are all important factors for economic practice which are discussed in brief. The author then gives his ideas how greater quantity and quality may be obtained in the above problems. A three stage process is described consisting of, first a mild softening, mechanical defibering and finally a decomposition by means of chlorine.—J. F. O.

Power House and Mill

Mixing Fluids in Flow. United Water Softeners, Ltd., and H. G. Marigny. Brit. pat. 356,796 (June 10, 1930).—This patent relates to apparatus for supplying reagents to a stream of water under pressure of the kind in which the main is provided with a construction with connections to two containers, the arrangement being such that water from the main displaces air from one of the containers which displace the reagent from the other container. The containers are compartments of the same vessel and the supply of reagent is regulated by a valve which is controlled by the pressure difference between opposite sides of the construction.—A. P.-C.

The Elimination of Timber from Paper Mill Construction. James Strachan. Paper Maker & Brit. Paper Trade J. 83: TS145-146 (April 1, 1932).—A brief discussion of the possibility and advisability of eliminating timber from paper mill construction.—A. P.-C.

Technical Improvements in Building Construction. M. G. Mutterlein. Wochbl. Papierfabr. 63, No. 31: 592-94 (July 30, 1932). Technical improvements in building construction as related to paper mills are described. Among the topics are, special cements, floor materials, advantages of certain roofing materials over others, aluminum as a construction material. The manufactures of these special materials are given.—J. F. O.

Uses of Wood in Equipment Construction. S. J. Hauser. Paper Industry 14: 433 (Sept. 1932).—A brief outline of the various uses of wood for the construction of pulp and paper mill equipment.—A. P.-C.

Acid-Resisting Structures Such as Tank Linings, Slabs or Bricks. Johann K. Wirth. U. S. pat. 1,867,-960 (July 19, 1932).—Acid-resisting building elements are secured together with a binder comprising a mixture of phenol-aldehyde condensation products and acids such as aqueous hydrochloric acid mixed shortly before use so that hardening takes place at ordinary temperatures.—A. P.-C.

Electricity in Paper Mills. S. A. Staege. Paper Mill 55, No. 34: 4, 10, 12 (Aug. 20, 1932).—A brief discussion of the advantages derived by the pulp and paper industry from the use of electricity.—A. P.-C.

Control Instruments in Pulp and Paper Making. Harry E. Weston. Paper Industry 14: 421-427 (Sept. 1932).—A review of various types of control instruments and their range of application in pulp and paper mills.—A. P.-C.

Electrical Equipment Depreciation. R. H. Stoltz. Paper Ind. 14: 588-591 (Nov. 1932).—An analysis of important classes of depreciation to be considered in paper mills to obtain maximum useful life.—A. P.-C.

Stepping Forward. Anon. Paper Ind. 14: 595-597 (Nov. 1932).—A brief resume of some comparatively recent changes in products-design for power purposes.—A. P.-C.

Modern Paper Mill Piping. O. K. Graef. Paper Ind. 14: 593-595 (Nov. 1932).—A discussion of some of the advantages and disadvantages of several piping materials in more or less common use in the industry.—A. P.-C.

Erecting a High-Pressure, High-Temperature Steam Line at West Virginia Pulp and Paper Co. H. C. Schramm. Paper Trade J. 95, No. 17: 30-36 (Oct. 27, 1932).—A detailed description of the field-welding of a 14-in. pipe carrying 600-lb. steam.—A. P.-C.

The Influence of Particle Size Distribution in Clays on Hand Sheet and Coating Characteristics*

By Robert D. McCarron[1] and Ben W. Rowland[2]

Abstract

The particle size and distribution of clays may be easily determined by means of a sedimentation balance. The retention of clays in hand sheets varies directly as the size of the filler particles. It is, nevertheless, rather difficult to predict from the characteristics of hand sheets just what will happen in the commercial process of paper making.

In coating, the characteristics of the coating mixture are determined by the fineness of the clays used. A fine clay, has a greater specific area than a coarser one and therefore requires more casein. A fine clay, although it requires more casein, produces a smoother finish.

With numerous developments in recent years in the mining and preparation of clays for the paper industry, their use has been firmly established in coating and in the loading of a large variety of papers.

Kaolin, or China clay chemically is a hydrated aluminum silicate containing about 42 per cent Al_2O_3; 44 per cent SiO_2; 14 per cent H_2O and traces of compounds of calcium, magnesium, iron and titanium. Clays, before they are fit for use in papermaking, are treated mechanically and sometimes chemically to insure fillers which are of good color, fine in particle size and free from grit and other impurities.

The quality of a clay may be determined by various physical and chemical tests and also, as is frequently done, by experience and simple comparative observations. The analyses for chemical constituents, grit, color and moisture may be carried out by any of the standard methods. However, the determination of particle size and distribution presents a somewhat more involved problem. For complete evaluation of a clay to be used in paper making, it is necessary to know the degree of fineness of the material. It is therefore the purpose of this paper to demonstrate a suitable method for the determination of the particle size and distribution of clays used in the paper industry.

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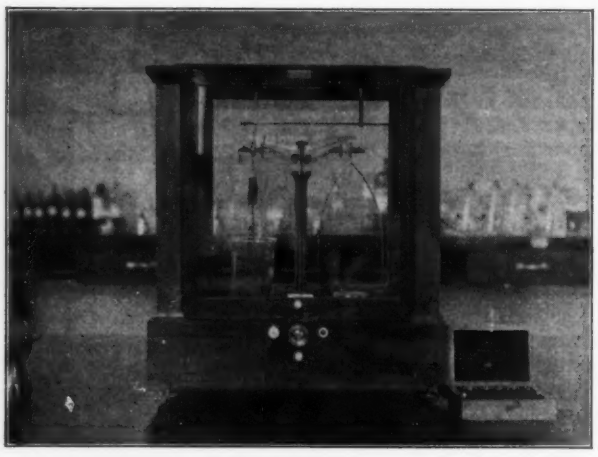

FIG. 1.
Sedimentation Balance.

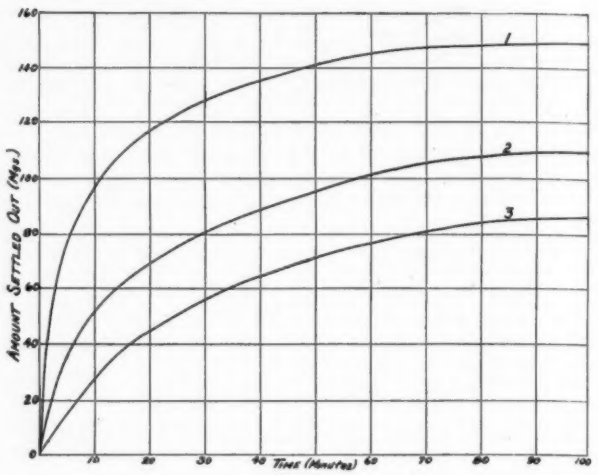

FIG. 2.
Sedimentation Curves.

Sedimentation Analysis

There are various methods by which the size of minute particles can be determined. In substances consisting of fairly coarse particles, microscopic methods may be used. In clays however particle sizes vary between wide limits in a given specimen, and are often so small that the use of a microscope becomes rather ineffective. In the experiments described in this paper a more comprehensive method for the determination of particle size was employed. The apparatus known as the "sedimentation balance" is dependent upon the principle of Stokes law which measures the resistance of a liquid against the gravitational precipitation of spherical particles in suspension.

Stokes' equation is applicable to the settling of spherical bodies in any medium. In many materials, including clays, the particles are not all spherical but many are irregular in shape. So we speak of the radius of the particles as the "equivalent radius," which may be defined as "the radius of a perfect sphere of the same material that sinks through the fluid at the same average rate as the particle in question." Elaborate formulæ have been suggested for the case of non-spherical particles; but with the conception of the "equivalent radius" we may use Stokes' equation without variation for the determination of the particle size of clays in which deviation from sphericity is not great.

Procedure

The apparatus used in obtaining the particle size and distribution date is approximately that described by Calbeck and Harner. It was made from an ordinary chemical balance by replacing one pan of the balance with a smaller one which is suspended in a settling chamber as shown in Fig. 1. In making a sedimentation run, 2 grams of clay

are placed in a beaker and 250 cc. of water are added and the mixture stirred thoroughly. A malted milk mixer serves this purpose excellently. A small amount of sodium silicate was added to disperse the clay, and the suspension so prepared was immediately transferred to the balance.

A sedimentation run was made on a clay without dispersing with silicate of soda. In this case it was found necessary to use a sample weighing 0.50 gram instead of 2.00 grams, due to the rapid settling of agglomerates, undispersed even by violent agitation.

Sedimentation data were used to prepare sedimentation curves, the nature of which is dependent upon the particle size distribution of the material.

The radius of a given particle can be calculated from Stokes' equation:

$$r = \frac{9\,\eta\,h}{2\,(d_1 - d_2)\,60\,g\,t}$$

where:

r = radius of spherical particle (cm.)
η = viscosity coefficient of the medium
h = distance of sedimentation (cm.)
d_1 = specific gravity of dispersed phase
d_2 = specific gravity of medium
g = acceleration due to gravity (cm. per sec.^{2})
t = time (minutes)

The distance h is measured from the top of the medium to the top of the pan in the settling chamber. By substituting the numerical values for the various quantities in Stokes' equation a simpler and more convenient formula may be obtained. The above formula was contracted to the following for the clays used:

$$r = 17.5\,\frac{1}{t}\ \text{microns}$$

It must be noted, however, that this abbreviated formula varies with the specific gravity, settling distance, etc. In this case the specific gravity used was 2.57 and the settling distance, 6.7 cm.

The sedimentation curve is prepared by plotting the weight of clay settled out against the time of settling. Typical sedimentation curves are shown in Fig. 2. A tangent to the curve drawn at any point cuts off a section of the weight axis which defines those particles which have completely settled out in the time indicated by that point. Thus if we draw a series of tangents a curve at convenient intervals we can read off on the weight axis the amount of material settling in any time intervals, e. g. 0-5 min.; 5-10 min.; 10-20 min.; etc.

TABLE I

DATA FOR PREPARATION OF HISTOGRAM FOR CLAY NO. 3

t	r	dr	s	ds	dS	dS/dr	3/rσ	dA
1.36	15	0	0	0	0	0	0	0
12.3	5	10	10.0	10.0	11.50	1.15	0.234	0.0026
19.1	4	1.0	17.0	7.0	8.04	8.04	0.292	0.0235
35.2	3	1	29.5	12.5	14.37	14.37	0.389	0.0558
76.8	2	1	60.0	30.5	35.07	35.07	0.584	0.2052
306.0	1	1	87.0	27.0	31.02	31.02	1.168	0.3622
				87.0	100.0			0.6493

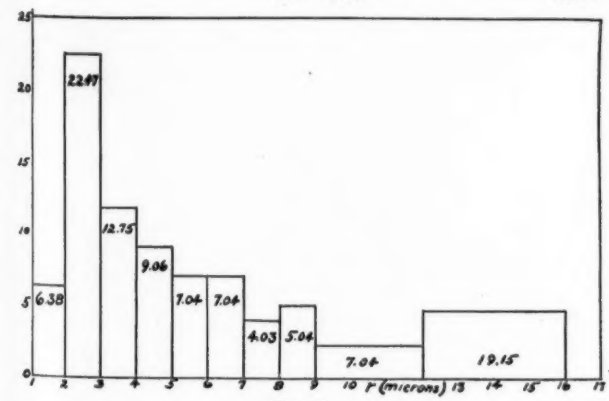

FIG. 3.
Histogram for Clay No. 1.

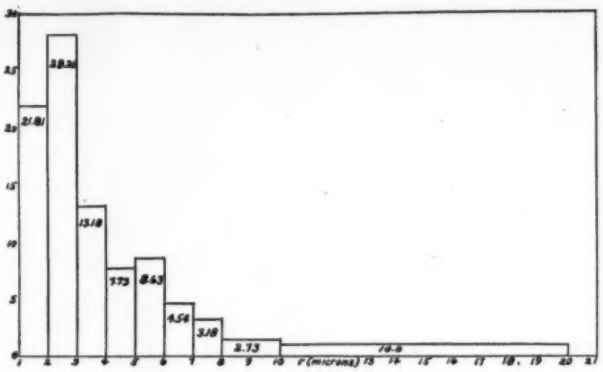

FIG. 4.
Histogram for Clay No. 2.

Data were then prepared such as shown in Table I where:

"r" is the radius interval expressed in microns. (This value is taken from the curve).
"s" is the total weight of sedimentation.
"ds" is the weight corresponding to any radius interval. (This value is given by the sections on the vertical axis cut by the tangents. The value "ds" gives the exact distribution of particle size intervals by weight.)
"dS" is the distribution in per cent.
"$\frac{dS}{dr}$" is the frequency or rate of change of percentage composition with respect to the change in radius.

Histograms are illustrated in Figs. 3-8 and are prepared by plotting the values of dS/dr, as in Table I, as ordinates against "r" as abscissæ. The small figures in each section designate the per cent of particles falling in each radius interval.

Method of Making Hand Sheets

Knowing the particle size and distribution of a variety of clays an attempt was made to find a possible relationship between the particle size of clays and the properties of hand sheets. Hand sheet equipment consisted of a small 1.5 pound beater, a sheet mold, hydraulic press, and a drying plate.

The beater was furnished with 620 grams oven-dry bleached sulphite pulp; 24 liters of water; 1 per cent

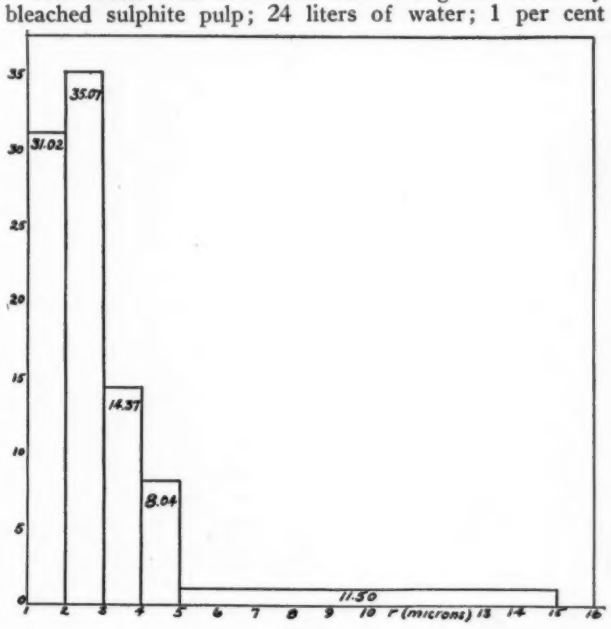

FIG. 5.
Histogram for Clay No. 3.

rosin and 2 per cent alum; and 10 per cent of clay. The clay slips were dispersed with a small amount of sodium silicate and added to the beater as soon as the pulp was broken up. The size and alum were added later in the run at five minute intervals. The stock was beaten for one hour with a weight of 12 pounds on the bed plate. In the runs made using the soda-sulphite furnish the beating time was cut down to 45 minutes. The amount of filler used in these runs was increased to 40 per cent.

TABLE II
RESULTS OF TESTS MADE ON HAND SHEETS (SULPHITE)

Test	Clay No. 1	Clay No. 2	Clay No. 3
Per cent Mullen	96.4	97.3	95.3
Tear	54.0	52.0	52.0
Tensile	11.5	13.5	11.3
Elongation	6.3	8.1	6.4
Valley Size	4.2	2.0	1.5
Porosity	90.0	56.0	40.0
Per cent Retention	32.2	18.6	16.4

In order to obtain comparative results all beater runs were made under exactly the same conditions. Several sheets were made in order to insure a fair average result in each test applied. The results are shown in Table II.

Three runs were made to determine the effect of particle size variations in clays on the opacity of book papers. The results of these runs are shown in Table III.

TABLE III
RESULTS OF TESTS MADE ON HAND SHEETS (SODA-SULPHITE)

	Clay No. 3	Clay No. 4	Clay No. 5
Opacity	0.79	0.79	0.75
Per cent Retention	21.2	19.5	11.8

Coating

In the coating of papers, covering power of the pigments and clays, etc. used in the coating mixtures is an important factor in determining the color, opacity and finish of the paper. Several sheets were made for the purpose of observing the effect of particle size of clays on the quality of coated papers. The coating mixture was made up with casein and clay. In the preparation of the various coating mixtures, the finest clays behaved best. The finest clays, however, required slightly more casein in order to "size" the coated sheet. The sheets were tested for glaze and sizing but there were practically no changes in either case. From visual examination of the uncalendered coated sheets it could be seen that the clays containing the highest percentage of fine particles produced the best finish and appearance.

In Table I there are given in one column, values of the

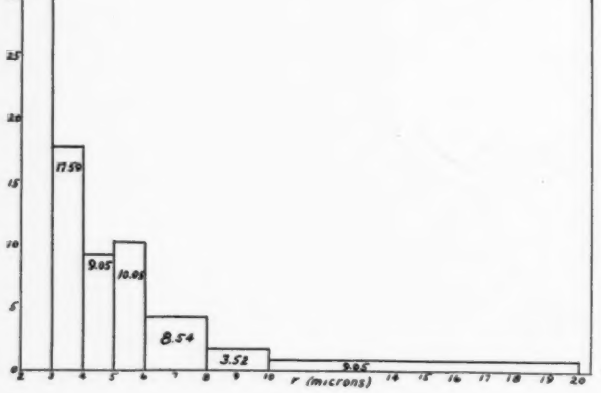

FIG. 6.
Histogram for Clay No. 4.

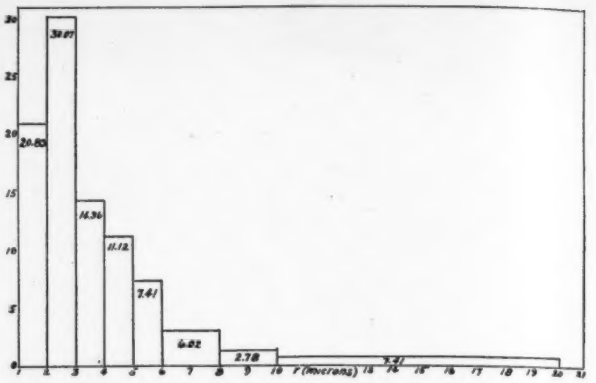

FIG. 7.
Histogram for Clay No. 5.

specific surface for each radius interval. This is designated by the formula: $3/r\sigma$ where "r" is the radius and σ is the density of the material. By multiplying dS by the quantity $3/r\sigma$ the figures in column dA are obtained and the sum of these quantities gives the "specific surface" of the whole sample in square meters per gram. The smaller the particle size, the greater the specific surface thus accounting for the fact that the finest clays required more casein than the coarser clays.

Discussion

In the procedure for sedimentation analysis, it was found necessary to use a protective colloid as a peptizing agent. Clays in the condition in which they are delivered to the mill are not divided into their basic "primary" particles; but are composed of "secondary" particles, or agglomerates of individual particles. These agglomerates are held together so firmly that even violent agitation and washing with water will not break them down. The marked effect of dispersion of clays by means of a peptizing agent may be seen by a comparison of the "histograms" of clay No. 1 with and without sodium silicate. (Figs. 1 and 3).

In the latter case the smallest particles are about 3 microns in radius while in the determination using silicate

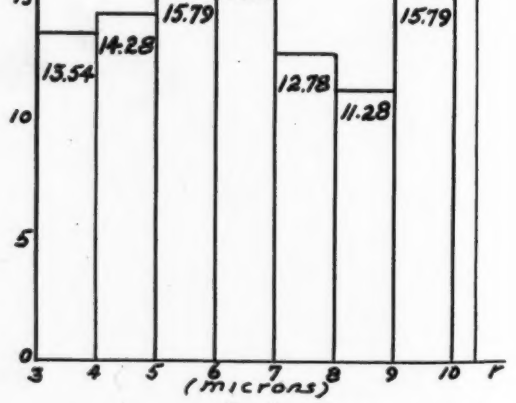

FIG. 8.
Histogram for Clay No. 1. (without sodium silicate)

almost 30 per cent of the particles were found to be less than 3 microns in radius.

From a comparison of the histograms of the various clays No. 1 appears the coarsest; No. 2 is a little finer, and No. 3 and No. 5, which are coating clays, are the finest in particle size; No. 4 is an air floated clay.

In the papers made using the various clays all tests remained fairly constant with the exception, however, of the porosity, Valley size test, and per cent retention. The results obtained in these experiments seem to indicate that the retention is related to particle size and distribution, increasing with larger particle sizes. The per cent retention in the runs with the relatively small amounts of clay is higher than the per cent retention in the soda-sulphite papers with relatively high amounts of clay. Retention varied in magnitude inversely as the amount of clay furnished. The porosity of the papers made from clays Nos. 1, 2 and 3 seems to increase as the particle size decreases. This fact indicates that the finer particles are probably less capable of filling up the interstices in the sheet. That the coarser particles produce a less porous sheet than fine particles is again indicated by the difference in the Valley size test.

In the soda-sulphite hand sheets the variation in opacity was very slight. However it seems to follow in the same direction as the per cent retention. This, of course, is what would be expected.

Acknowledgment

The authors are indebted to A. Lewinstein, Appleton Coated Paper Company, for his valuable assistance in the coating experiments described in this paper.

Additional Information

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Process Engineers vs. Container Corp.*

In a recent decision, Judge Johnson of the District Court for the Northern District of Illinois sustained the contenions of the Container Corp. and held invalid Patent No. 1,589,947 issued June 26, 1926 to J. A. DeCew for a sizing process.

It has long been the general practice to add both the sizing solution and the alum to the furnish at the beater. DeCew in his patent asserted that this was poor practice due to the fact that the size is often coagulated by earth impurities in the beater and is also injured by the violent mechanical action of the jordan. During the trial DeCew also sought to show that the sizing was injured at the excess heat generated at the jordan. The patent in suit proposed to add the sizing elements to the furnish at such points in the papermaking process that the precipitation or coagulation of the size would take place after the furnish had passed through the jordan. Claim 1 covered the step of adding both sizing elements after the jordan while claim 2 covered the step of adding the sizing solution after the jordan.

The defendant urged that there was nothing new in the DeCew's sizing process and "that the size and alum, long prior to the patent in suit, had been applied at every conceivable point in the line between the beater and the paper machine in the path of the furnish from the beater to the paper machine, including the particular points selected by DeCew in the patent in suit and the points of application charged to be used by defendant."

The court found from the evidence that DeCew's process was anticipated by a public use of the invention at the Niagara Paper Mills which occurred prior to 1906. The court further decided that his process did not differ in a patentable sense from a method which had been used at the Falulah Mill at Fitchburg since 1921. In the Falulah process the sizing solution was added in advance of the jordan and the alum after the jordan. However, in both DeCew's process and the Falulah process, the same result was produced; i.e., the coagulation occurred after the jordan.

DeCew sought to show that the Union Bag & Paper Co. had effected great savings by the use of his process. The court, however, decided that the testimony showed that there were other factors besides DeCew's process which contributed to the alleged savings.

It is interesting that the experts for both plaintiff and defendant are prominent members of the Technical Association of the Pulp and Paper Industry. Wm. G. MacNaughton, the expert for plaintiff, was at one time secretary of TAPPI and F. C. Clark, the expert for defendant, is a vice-president of Skinner & Sherman and former vice-president of TAPPI.

The plaintiff has appealed from Judge Johnson's decision to the Circuit Court of Appeals so that the present decision is not the final word in the suit.

W. R. Willets, formerly research chemist with the Western Electric Company, Kearney, N. J., is now chemist for the Titanium Pigment Company, 105 York street, Brooklyn, N. Y.

The Pulp Bleaching Corporation has moved from 200 Fifth Avenue, New York, to 44 Main street, Orange, N. J.

L. S. Dixon, formerly construction engineer with E. B. Eddy Company Ltd., Hull, P. Q., is now consulting engineer in Bangor, Maine.

A. T. Randall, chemist for Eaton-Dikeman, Lee, Mass., is now located in the Mount Holly Springs, Pa., mill of that company.

The fall meeting of Tappi will be held at Appleton, Wis., September 26-28, 1933. Headquarters will be at the Conway Hotel and Otto Kress will be general chairman.

* This Bulletin 20 issued by the Patents Committee of the Technical Association of the Pulp and Paper Industry, C. W. Rivise, Chairman.

A Study of The M. I. T. Paper Folding Tester *

By L. W. Snyder[1] and F. T. Carson[2]

Abstract

Measurements were made of important characteristics of a number of M. I. T. folding testers such as variation in tension, curvature of the folding surfaces and rate of folding. Performance tests were then made on a number of samples of paper. Some correlation was found between the variation in individual tests of paper and the measured machine variables, although the relations were not altogether conclusive. Tests were also made on the M. I. T. and Schopper folding testers. There was no correlation between the two sets of results. A proposed testing method involving the use of the M. I. T. tester was outlined.

1. Introduction

The test for the folding of paper, which involves holding a strip of paper under definite tension and bending it repeatedly around a curved surface until failure occurs, has come to be rather generally regarded as a valuable test of most high-grade papers and of all papers which are creased, bent sharply, or handled to a considerable extent during their useful life.

Within the past few years a folding tester, developed at the Massachusetts Institute of Technology under the direction of Dr. V. Bush and known as the M. I. T. folding tester, has appeared and has gained considerable favor. In this apparatus, which is illustrated in Fig. 1, a strip of paper is fastened at one end in a tension clamp A, which is actuated by a spring. The other end of the strip is fastened in an oscillating clamp B, the jaws of which terminate in rounded edges near the center of oscillation. This clamp oscillates through an angle of 135° each way from the vertical and in doing so bends the paper first one way then the other around the curved edges of the jaws. The tension on the specimen is determined by the displacement of the tension clamp at the time the strip is fastened in the two clamps. A revolution counter D is used to indicate the number of double folds required to rupture the strip on the fold. Some of the outstanding features of this design are: (a) No alignment rollers are required and there are few working parts which are driven by the specimen. (b) The tension is practically constant throughout the folding cycle. (c) Calibrations are made by placing weights on the knob C and noting the corresponding displacement of the tension clamp A. (d) The tension may easily be adjusted to any desired value within the capacity of the spring, thus permitting reasonably rapid testing of a wide range of papers.

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Publication approved by Acting Director of the Bureau of Standards, Department of Commerce.
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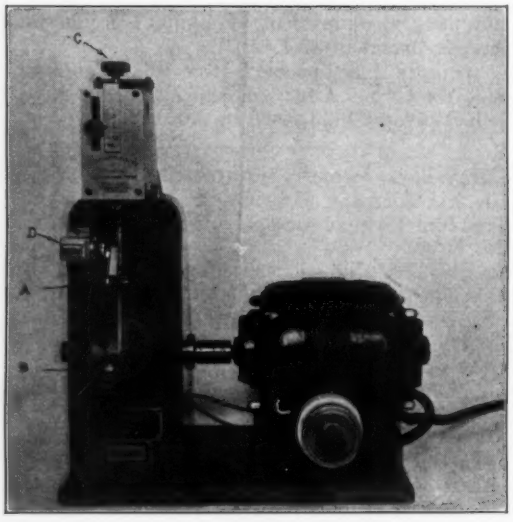


FIG. 1.
M. I. T. Folding Endurance Tester.

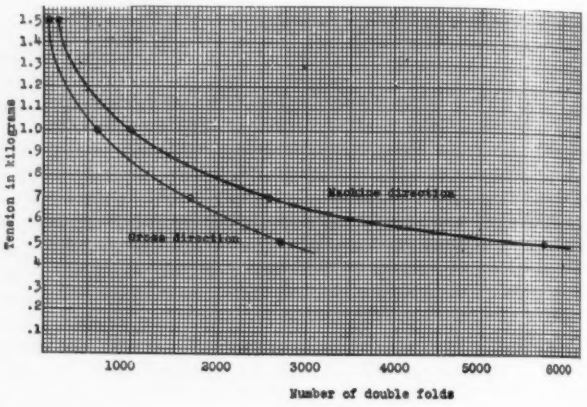


FIG. 2.
M. I. T. folding endurances at different tensions.

The M. I. T. folding tester has attracted the attention of both the Paper Testing Committee of the Technical Association of the Pulp and Paper Industry and the Subcommittee on Sheet Insulating Materials of the American Society for Testing Materials. At the request of these organizations a study of the tester was undertaken to determine the degree of concordance which might be expected in the results obtained with different M. I. T. testers under identical conditions and to obtain data which might be used in formulating a method and procedure for determining folding endurance.

II. Study of Several M.I.T. Folding Testers

1. Measurement of the Salient Characteristics of the Testers.

There are several characteristics of the M. I. T. folding tester which, on cursory examination, appear to be important factors in determining the character of the folding results. The most important of these are: the magnitude of the tension applied to the specimen while it is being bent; changes in this tension during the folding cycle; the severity of the fold; and the rate at which the paper is bent. The measurement of these salient characteristics was therefore considered to be logically the first step in the study.

Through the courtesy of members of the A. S. T. M. subcommittee previously mentioned, six M. I. T. folding testers were obtained for this study. It should be remarked that these testers were of various ages, had been in use in different commercial laboratories, and were

found to differ somewhat in details of construction and condition.

(a) Tension.

Friction in the plunger bearings introduces some uncertainty into the determination of the tension on the specimen. In order to make some estimate of the error due to this source, the static friction was measured in terms of the change in tension by determining the increment in the force necessary to just move the plunger from a state of rest when the spring was compressed under a load corresponding to the tension to be applied to the specimen. A dial micrometer reading in thousandths of an inch was used to show when the plunger moved as the load increment was applied. Static plunger friction as high as 70 grams in effective tension was found in some of these testers in their condition as received. All were thoroughly cleaned and oiled, after which measurements were made of the static plunger friction at three values for the load

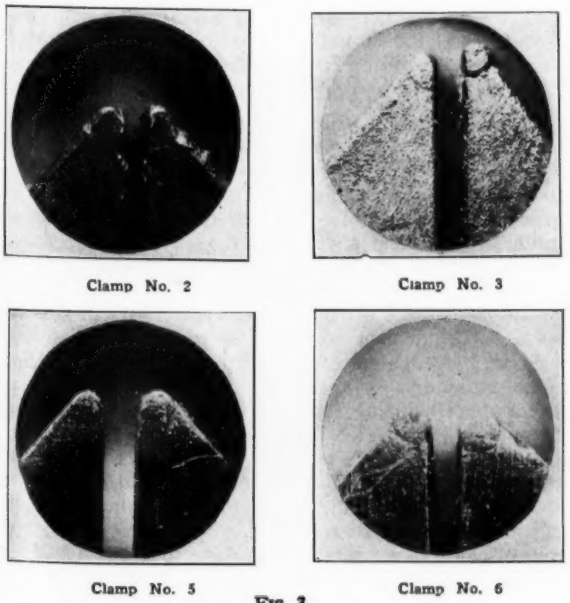
TABLE I
STATIC FRICTION OF UPPER CLAMP

M.I.T. tester number	Average [1] frictional resistance for tension of 0.5 Kg. Grams	1.0 Kg. Grams	1.5 Kg. Grams
1	25.0	26.0	26.0
2	25.0	27.0	22.5
3	24.5	24.0	22.0
4	22.0	23.0	22.5
5	23.0	23.5	23.0
6	26.0	24.0	22.5

[1] Ten readings.

on the spring, covering the range of tensions ordinarily used in testing paper. The results are shown in Table I. Manipulation of the plunger under load so as to allow it to come to rest first on the downward stroke and then on the upward stroke indicated that the possible error in applying a given tension to the specimen is of the order of about 25 grams, which is in conformity with the results in Table I.

A second source of uncertainty in the applied tension results from small vertical displacements of the specimen itself, necessitated by the fact that a small portion of the specimen must be wrapped around the edges of the jaws of the oscillating clamp as it moves through its cycle. The magnitude of this effect depends upon the curvature of the



Clamp No. 2 Clamp No. 3

Clamp No. 5 Clamp No. 6

FIG. 3.
Photomicrographs of folding edges of jaws of M.I.T. tester.

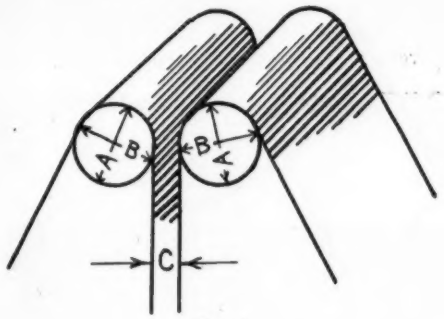


FIG. 4.

edges of the jaws, their distance apart, and their distance from the center of oscillation. The radius of curvature of the edges of the jaws is nominally 0.0155 inch, (0.33 mm.) but actually, as will be brought out later, there is more or less departure from this value in the different instruments. A distance of 0.01 inch separates the jaws of the oscillating clamp most frequently used in testing ordinary thin papers. Folding clamps having jaws separated by 0.02, 0.03, or 0.04 inch can, however, be had for thicker materials. The choice of a folding clamp such that the specimen to be tested nearly fills in the distance separating jaws will minimize the tension changes. The distance of the two folding surfaces from the center of

TABLE II
EFFECTIVE CHANGE IN TENSION RESULTING FROM DIFFERENCES IN CURVATURE AND POSITION OF FOLDING SURFACES

Tester No.	Folding jack slot clamp, Inch	Change in effective tension when Rotated to left 90° g	120° g	135° g	Rotated to right 90° g	120° g	135° g
1	.01	— 7	— 1	+ 4	— 9	— 7	— 4
2	.01	—17	—16	—10	—11	— 9	— 7
3	.01	— 9	— 3	0	—27	—17	—11
5	.01	— 9	+ 3	+ 9	—10	— 1	+ 4
6	.01	—14	— 7	0	—20	—14	—11
1b	.02	—37	—37	—35	—37	—39	—35
1c	.03	—50	—53	—50	—50	—56	—52

oscillation will depend somewhat on the distance separating the jaws, but can never be zero. There is, however, an optimum position in each case which will result in the least amount of eccentricity in the rotation and the consequent vertical movement of the specimen. Although there must always be some change in the effective tension because of these three factors, it need not be very great in a properly made folding clamp. Some measurements were made of the changes in tension during the folding cycle resulting from the factors discussed above. A strip of paper about 0.005 inch thick was clamped in each tester under a tension of 1 kilogram and the oscillating clamp was rotated through various angles. The corresponding displacements were measured with the dial micrometer. These values were then expressed in terms of changes in effective tension by means of the load-deflection ratio of the spring which was found to be 55 grams per mm. of deflection. The results are shown in Table II, the positive sign indicating increase and the negative, decrease in tension.

The change in effective tension resulting from the curvature and position of the folding edges is in most cases small. In the case of testers 1 and 5 it is not greater than 10 grams at any position of the oscillating clamp. But it is two or three times this amount for some positions of the oscillating clamp of the other testers, 2, 3, and 6, which were presumably identical in construction. The results obtained with testers No. 1b and 1c are for folding clamps having wider spacings of the jaws, and show the inadvisability, with the present design of M. I. T. tester, of

testing such thin papers with folding clamps having the wider jaw spacings. From the data in Tables I and II it is apparent that it is quite possible to have an uncer-

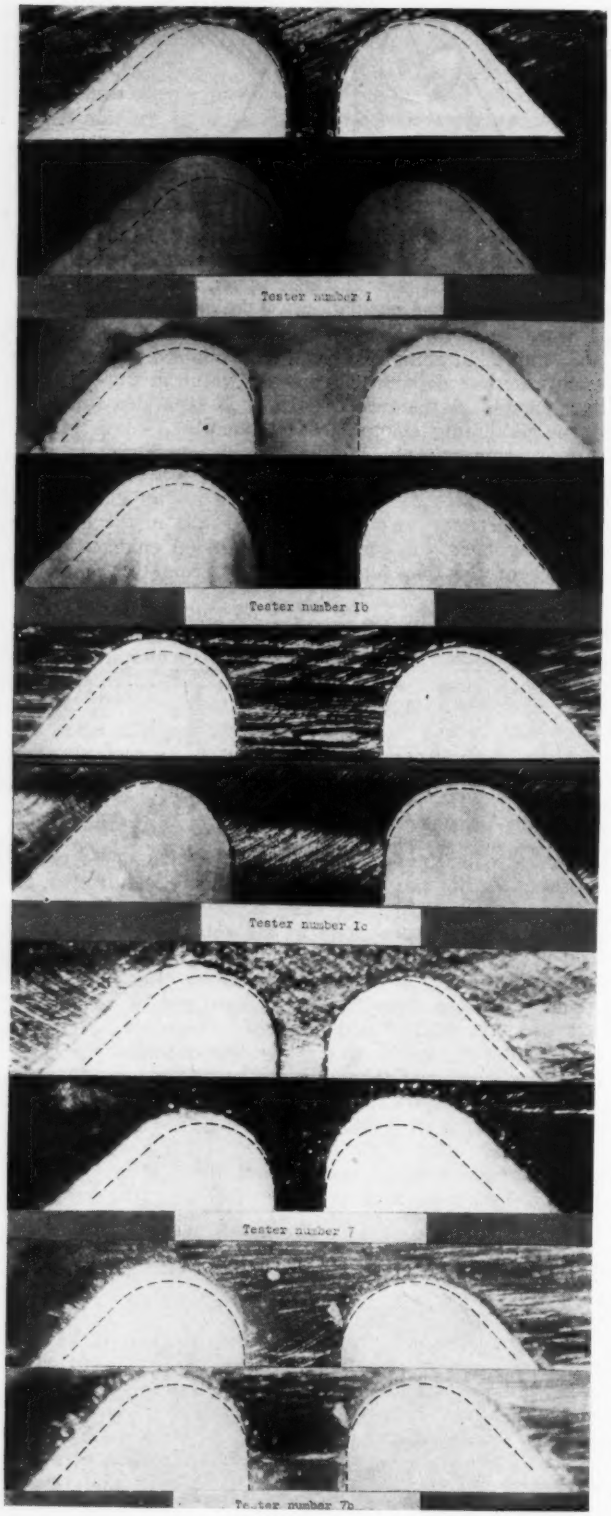


FIG. 6.
Sectional profile views of folding edges taken at B and F as indicated in Fig. 5.

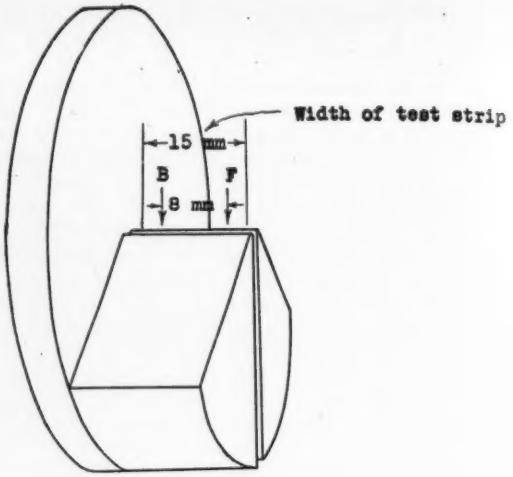


FIG. 5.
Perspective view of rotor clamp of M. I. T. folding endurance tester showing positions of the F and B sections.

tainty of about 50 grams in the tension applied to the specimen. To determine how much an error of this magnitude might be expected to effect the folding results, tests were made on one of the instruments, the tension being adjusted for four different values: 0.5, 0.7, 1.0, and 1.5 kg. Several kinds of paper were tested and the results found to be much the same in each case. The curves in Fig. 2 showing the results obtained with an all-rag bond paper, are typical for the series of tests.

From these data it is seen that an error of 50 grams in the tension applied to the specimen might result in an error of 15 to 25 per cent in the folding results, depending upon the absolute value of the tension. Actually this estimate may be high because the changes in tension are intermittent, and on the average somewhat less than 50 grams.

Errors from these sources could probably be reduced to a negligible quantity if the compression spring and plunger were replaced by a tension spring long enough to reduce the load-deflection ratio to a fraction of the present value, and the spring mounted so that it and the attached clamp would be freely suspended during operation.

(b) Curvature of the Folding Surfaces.

Given a constant tension, the severity of the treatment of the specimen during the folding cycle depends upon the curvature of the edges of the jaws around which the paper is bent, the smaller the radius of curvature the sharper is the bend. The folding edges of the jaws are nominally cylindrical surfaces having a radius of curvature of 0.0155 inch. It was evident, however, from an inspection of the different clamps with a microscope that the folding surfaces differed considerably both in size and shape. Although a drill rod of the proper size had been brazed to the edge of each jaw to serve as the folding surface, it invariably appeared to have had its original contour altered during the final machining process. The photomicrographs in Fig. 3 give some idea of the contours, although the focus was at the very ends of the jaws and the pictures are not representative of the entire surfaces. Some measurements were made of the diameters of the drill rods by means of a microscope containing a calibrated eyepiece scale. An attempt was made to focus a little in from the ends so as to get more representative values. One measurement was made in a direction such as to bisect the jaw and another was made at right angles to this,

TABLE III
SALIENT DIMENSIONS OF OSCILLATING CLAMP

Tester No.	Left jaw A Inch	Left jaw B Inch	Right jaw A Inch	Right jaw B Inch	Folding jaw slot C Inch
1	.021	.022	.024	.023	.011
2	.025	.029	.019	.021	.010
3	.018	.021	.018	.018	.011
4	.027	.026	.026	.024	.022
5	.021	.024	.025	.025	.012
6	.021	.024	.025	.028	.012

as indicated in Fig. 4, by B and A respectively. The results are given in Table III. It is apparent that the folding surfaces were not of the correct size, nor were they truly cylindrical. Since most of these testers were rather old and not representative of present construction, measurements were later made of another set of oscillating clamps, most of which were of the latest construction. For these measurements a better technique was used. Casts in hard wax were made at two places along the folding surfaces as indicated by F and B in Fig. 5, and the profiles were magnified about 65 times and photographed. The contours were then compared with the nominal contours (dotted lines in figures). Some of these contours are shown in Fig. 6. It is evident that considerable improvement could still be made in these folding surfaces.

It would be very desirable to have data showing the effect upon the folding results of the curvature of the folding surfaces or edges of the jaws in order that some idea could be had of the tolerances required. It would, however, be very troublesome to obtain such data. It would probably necessitate the redesigning of one of the instruments so that this factor could be varied in definite steps without changing appreciably other factors which contribute to the folding value. It did not seem feasible to do this within the scope of the study as initially outlined.

(c) Folding Rate.

Measurements were made of the speed of operation of the different folding testers. The rate of speed was found to range from 163 to 212 double folds per minute as shown in Table IV. Tests were made on one of the folding testers at 130 double folds per minute and at 200 double folds per minute. The results are shown in Table V. Variations of speed within these limits does not appear to affect the results appreciably.

TABLE IV
SPEED OF OPERATION OF THE DIFFERENT M.I.T. TESTERS

Tester No.	Folding speed, Double folds per minute
1	205
2	178
3	212
4	163
5	186
6	190

TABLE V
FOLDING VALUES AT DIFFERENT SPEEDS

Speed	Sample number S-1		S-2		S-3	
Double folds per minute	Machine direction Double folds	Cross direction Double folds	Machine direction Double folds	Cross direction Double folds	Machine direction Double folds	Cross direction Double folds
130	29	15	1510	691	244	134
200	30	15	1239	720	225	142

Note: Each result is average of 50 tests.

TABLE VI
DESCRIPTION OF PAPERS USED IN OBTAINING RESULTS IN TABLE VII

Sample No.	Kind of paper	Fiber	Ream weight 25x40 inches, 500 sheets Pounds	Thickness Inch
S-1	White writing	Sulphite	64	0.0043
S-2	Ledger	Rag	106	0.0072
S-3	Ledger	Rag-Sulphite	106	0.0071
S-4	Kraft wrapping	Sulphate	69	0.0066
S-5	Bond	Rag-Sulphite	53	0.0038
S-6	Insulating tape	Jute-Manila	38	0.0033

TABLE VII
FOLDING ENDURANCE AS DETERMINED BY SEVERAL M. I. T. FOLDING TESTERS

Tester No.	Dist. between jaws of oscillat. clamp, inch	S-1 Mach., double folds	S-1 Cross, double folds	S-2 Mach., double folds	S-2 Cross, double folds	S-3 Mach., double folds	S-3 Cross, double folds	S-4 Mach., double folds	S-4 Cross, double folds	S-5 Mach., double folds	S-5 Cross, double folds	S-6 Mach., double folds	S-6 Cross, double folds	Composite Average double folds
1	0.01	28	16	1157	750	204	131	1341	547	233	61	3728	125	693
1a	.01	36	17	1421	997	306	172	954	509	365	177	3271	148	698
2	.01	28	19	1087	492	58	45	1689	934	91	40	2513	109	592
3	.01	37	18	1032	576	135	170	1028	927	91	52	2485	238	566
5	.01	36	20	1007	630	151	194	1726	771	251	110	3603	186	724
6	.01	30	22	1008	819	275	172	1092	874	233	90	3200	141	663
4	.02	35	22	1277	509	351	104	1933	828	186	58	2802	158	689
1b	.02	42	23	1588	867	384	196	1344	643	451	163	4715	217	886
1c	.03	41	21	1423	687	266	220	1235	801	298	125	4209	250	798
Av'ge		35	20	1222	703	237	156	1371	759	244	97	3392	175	701

2. Comparative Folding Values on Several M. I. T. Folding Testers.

Six samples of paper, described in Table VI, were tested on all the available M. I. T. testers. These papers were conditioned in an atmosphere of 65 per cent relative humidity and 70 deg. F., and the tests were made under these atmospheric conditions. The results are shown in Table VII. Each result is the average of 15 to 20 tests. Tester No. 1 was equipped with three extra clamps of recent construction. These are designated as 1a, 1b, and 1c. The relative performance of the different testers appears to be somewhat different for the different samples of paper. The variability in paper doubtless enters into this circumstance and calls for a greater number of individual tests in order to arrive at a fair average. A composite average was therefore made of all the tests on each instrument. These values, shown in the last column, indicate a more nearly uniform performance of the different testers than is indicated by the results on any one sample of paper. There appears to be some correlation between these composite results and the contour of the folding edges as depicted in Fig. 3. Testers 2 and 3 have rather sharp folding edges and give low folding results, while testers 5 and 6 have more nearly normal folding surfaces and give results which signify average performance. The high results of testers 1b and 1c may be due to the decrease in the effective tension resulting from the testing of paper thinner than the clamp slots are designed to accommodate. One is somewhat reluctant to draw definite conclusions from the data, yet these data lend some encouragement to the hope that, if the folding surfaces were always made of the correct contour, if the variation in applied tension were minimized as has been suggested, and if a sufficiently large number of tests are made and averaged, the M. I. T. folding tester might yield more consistent results.

3. Data Obtained With M. I. T. and Schopper Folding Testers.

Numerous inquiries from various sources have been made as to whether or not folding tests made with the M. I. T. tester bear a constant relation to those made with the Schopper folding tester. Some data indicate that in the case of papers of the same kind there may be a rough correlation, but in general this does not seem to be true. Table VIII was prepared from results obtained on the two types of testers. The tension in each case was 1 kg. and the tests were made under identical atmospheric conditions on the same papers as were used for the tests already described. It will be observed that there is no semblance of correlation. About the only consistent relation is that the M. I. T. results are always lower than the

TABLE VIII.—M. I. T. AND SCHOPPER FOLDING VALUES

Type of Tester	Sample number S-1 Machine direction Double folds	S-1 Cross direction Double folds	S-2 Machine direction Double folds	S-2 Cross direction Double folds	S-3 Machine direction Double folds	S-3 Cross direction Double folds	S-4 Machine direction Double folds	S-4 Cross direction Double folds	S-5 Machine direction Double folds	S-5 Cross direction Double folds	S-6 Machine direction Double folds	S-6 Cross direction Double folds
M. I. T.	28	16	1157	750	204	131	1341	547	233	61	3728	125
Schopper	53	36	15174	6272	2683	1086	4866	1782	758	210	7223	175
Ratio	1.9	2.3	13.1	8.3	13.1	8.3	3.6	3.4	3.3	3.4	1.9	1.4

Note: All tests made at 1.0 kg. tension.

Schopper results. This is probably due largely to the fact that the tension in the case of the M. I. T. tester is nearly constant at 1 kg. whereas the tension in the case of the Schopper tester varies from 1 kg. to about 0.8 kg. during the folding cycle, and to the fact that in the former case the specimen is being continuously bent, whereas in the latter it is bent only while it is being pushed between the folding rollers and while it is under a tension of about 0.8 kg. It is evident that the specimen is not treated in the same manner in the two types of folding testers and it is not surprising that parallel results are not obtained.

III. Proposed Method For Making M. I. T. Folding Test.

It is felt that the data obtained in this study are sufficient to form the basis of a tentative folding endurance method. The chief deficiency in the data is relative to the effect of the contour of the folding surfaces upon the folding endurance. It was not found feasible within the scope of the study undertaken to obtain any quantitative data on this point. But it should be possible to make these surfaces very nearly alike and of the proper size and shape. The tolerance in the radius of curvature of the edges of the jaws has therefore been made very small.

The suggested method of procedure is as follows:

I. Apparatus.

The testing instrument shall consist of:

(a) A loading clamp and an oscillating clamp mounted in the same plane. The upper or loading clamp shall have a suitable clamping device, constrained to a vertical movement without rotation. A spring shall be attached to the loading clamp that will give different tensions from 0. to 1.5 kg. dependent upon the displacement. The deflection of the spring when loaded shall not be less than 17 mm. per kg.

(b) The lower or oscillating clamp shall be provided with two jaws, each of which terminates in a cylindrical edge near the axis of rotation. The two edges shall be 0.031 inch (0.76 mm.) ±0.001 inch (±0.003 mm.) in diameter, and not less than 19 mm. in length. They shall be parallel to each other and to the axis of rotation. The jaws shall be smooth over all surfaces which come in contact with the paper during the folding cycle. The rotary oscillating movement of the folding clamp shall be such as to fold the paper through an angle of 135 degrees, plus or minus 5 degrees, to both right and left of the position of zero fold. The folding speed shall be approximately 175 double folds per minute.

(c) The width of the slot (distance separating folding surfaces) in the oscillating clamp shall not be more than 0.01 inch greater than the thickness of the paper being tested.

(d) A power driven device for imparting a rotary oscillating motion of constant period to the folding clamp.

(e) A device for registering the number of double folds required to sever the specimen.

II. Test specimens.

Specimens to be tested shall be cut accurately in each principal direction of the paper with a width of 0.59 inch (15 mm.) and a length such as to insure a firm grip in the jaws without buckling. They shall initially be free from folds or wrinkles or blemishes not inherent in the paper. The long edges of the specimens must be clean-cut and parallel to the opposite edges. The specimens shall be so selected from the sample secured by the official sampling method as to be representative of the sample.

III. Procedure.

The oscillating clamp shall be placed in the position of zero fold. A 1.0 kg. weight shall be placed on top of the plunger and the plunger clamped in position when depressed under this load. The specimen shall then be clamped firmly and squarely in the jaws with the surface of the specimen lying wholly within one plane. The specimen shall be handled by the ends and not touched with the hands in the region which is to be folded. The specified tension shall then be applied to the test strip by releasing the plunger. If the position of the plunger has changed, it should be adjusted to its original position by means of the adjusting screw. The strip shall be folded at a uniform rate of approximately 175 double folds per minute until it is severed at the crease. The number of double folds required to sever the specimen shall be recorded. Not fewer than 10 strips cut in each principal direction of the paper shall be tested. Folding endurance tests shall be made on paper conditioned according to the official method for conditioning and in the atmospheric conditions therein specified.

IV. Calibration.

(a) All working parts shall be in good condition, well oiled and in proper adjustment. Particular care must be given to make certain that the folding edges are free from rust or dirt.

(b) The plunger friction shall be measured by determining the additional load required to move the plunger perceptibly when displaced under a load of 1.0 kg. The additional load required shall not be greater than 25 grams.

(c) The change in tension due to eccentricity of rotation of folding edges shall be measured as follows:

A test strip of strong paper of the proper thickness is placed in the machine in the same manner in which a folding test would be made, and a tension of 1.0 kilogram is applied. The lower jaw is rotated slowly throughout the entire folding cycle and the maximum change in displacement of the plunger is measured to an accuracy of 0.03 mm. The amount of load required to produce the same displacement shall not be greater than 35 grams.

(d) The measurement of the applied tension is a part of the procedure.

V. Report.

The results shall be reported as M. I. T. double folds. The average, the maximum and the minimum for both of the principal directions of the paper shall be reported. In reporting average results all digits after the first two shall be rounded to zeros.

VI. Additional Information.

The curvature of the folding edges may conveniently be measured by means of suitable casts magnified in profile and compared to standard circles.

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING MAY 27, 1933

CIGARETTE PAPER

Max Speigel & Sons, Pr. Pierce, Genoa, 16 bls.; Standard Products Corp., Ile de France, Havre, 30 cs.

WALL PAPER

Bendix Paper Co., Tofuku Maru, Hamburg, 5 cs.; S. K. Lonegren, Gripsholm, Gothenburg, 4cs.; F. J. Emmerich, Aquitania, Southampton, 1 cs.; F. J. Emmerich, Hamburg, Hamburg, 4 bls.; ——, Hamburg, Hamburg, 8 cs.; ——, Werra, Bremen, 2 cs.

NEWS PRINT

Jay Madden Corp., Scanyork, Kotka, 352 rolls; ——, Scanyork, Kotka, 57 rolls; Bank of Montreal, Humberarm, Cornerbrook, 3,234 rolls; International Paper Co., Humberarm, Dalhousie, 5,637 rolls; News Syndicate Co., Ili, Thorold, Ont., 566 rolls; Parsons & Whittemore, Inc., Gripsholm, Gothenburg, 280 rolls; Chase National Bank, Gripsholm, Gothenburg, 154 bls.; W. H. Bell, Markland, Liverpool, N. S., 3,629 rolls; Perkins Goodwin & Co., Werra, Bremen, 104 rolls; Newark Evening News, Donnacona, Donnacona, Que., 570 rolls.

PRINTING PAPER

E. Deitzgen & Co., Amer. Banker, London, 16 cs.; Senefelder, Hamburg, Hamburg, 9 cs.; Walker Goulard Plehn Co., Hamburg, Hamburg, 65 cs.

WRAPPING PAPER

Yardley & Co., American Banker, London, 1 cs.; Penson & Co., Gripsholm, Gothenburg, 6 rolls.

KRAFT PAPER

Wilkinson Grey & Co., Inc., Gripsholm, Gothenburg, 40 bls.

FILTER PULP

H. Reeve Angel & Co., Inc., Majestic, Southampton, 8 bls.

FILTER PAPER

H. Reeve Angel & Co., Inc., American Banker, London, 6 cs.; H. Reeve Angel & Co., Inc., Majestic, Southampton, 7 cs.; A. Giese & Son, Aquitania, Southampton, 58 bls.

DRAWING PAPER

H. Reeve Angel & Co., Inc., American Banker, London, 3 cs.

METAL COATED PAPER

Globe Shipping Co., Columbus, Bremen, 66 cs.

SURFACE COATED PAPER

Globe Shipping Co., Werra, Bremen, 26 cs.

COATED PAPER

Chas. Happel, Hamburg, Hamburg, 4 cs.

PHOTO PAPER

J. J. Gavin, Majestic, Southampton, 4 cs.; Medo Photo-Supply Co., Majestic, Southampton, 1 cs.

TRANSFER PICTURES

Rohner Gehrig & Co., Columbus, Bremen, 9 cs.

TISSUE PAPER

Van Oppen & Co., Pr. Pierce, Marseilles, 6 cs.; Meadows Wye & Co., Scythia, Liverpool, 1 cs.

WRITING PAPER

H. W. Robinson & Co., Hamburg, Hamburg, 4 cs.

COVER PAPER

International F'd'g Co., Hamburg, Hamburg, 4 cs.

CARD BOARD

G. M. Thurnauer Co., Inc., Minnetonka, Antwerp, 22 cs.

MISCELLANEOUS PAPER

Japan Paper Co., Pr. McKinley, Kobe, 29 cs.; F. C. Strype, Ile de France, Havre, 2 cs.; Keller Dorian Paper Co., Ile de France, Harve, 1 cs.; F. C. Strype, Veendam, Rotterdam, 2 bls.; Walker Goulard Plehn Co., Veendam, Rotterdam, 3 bls.; The Borregaard Co., Inc., Gripsholm, Gothenburg, 225 rolls; J. Romer, Norfolk Maru, Kobe, 68 cs.; National City Bank, Tokai Maru, Kobe, 5 cs.

BAGS, BAGGINGS, ETC.

——, American Banker, London, 30 bls. paper stock; E. J. Keller Co., Inc., Black Falcon, ——, 134 bls. bagging; E. Butterworth & Co., Inc., Artigas, Liverpool, 74 bls. bagging; C. Nelson, Artigas, Belfast, 41 bls. paper stock; M. Snedeker Corp., Artigas, Belfast, 120 bls. paper stock; Bank of N. Y. Trust Co., Artigas, Belfast, 101 bls. paper stock; ——, Navemar, Barcelona, 124 bls. rags.

OLD ROPE

Banco Coml Italiane Trust Co., American Banker, London, 103 coils; E. J. Keller Co., Inc., American Banker, ——, 39 coils; Continental Bank Trust Co., Navemar, Barcelona, 97 coils.

GLUE STOCK, ETC.

N. C. Lederer, Inc., Veendam, Rotterdam, 200 bags bone glue; ——, Hamburg, Hamburg, 128 bags bone glue; ——,

Werra, Bremen, 60 bags bone glue; ——, Saturnia, Trieste, 579 bags hide glue.

CHINA CLAY

Whitaker Clark & Daniels, Scythia, Liverpool, 280 bags; Wilson Paterson Gifford, Ltd., Artigas, Cardiff, 60 bags.

CASEIN

D. C. Andrews & Co., Hamburg, Hamburg, 60 bags.

WOOD PULP

Johaneson Wales & Sparre, Inc., Scanyork, Gdynia, 504 bls. wood pulp, 75 tons; E. J. Keller Co., Inc., Scanyork, ——, 689 bls. wood pulp, 104 tons; Price & Pierce, Ltd., Scanyork, Wallvik, 900 bls. sulphite, 150 tons; 125 bls. mechanical, 25 tons; Coles Roads, Inc., Scanyork, Wallvik, 152 bls. pulp residue, 33 tons; Bulkley Dunton & Co., Scanyork, ——, 875 bls. wood pulp, 177 tons; Pagel Horton & Co., Inc., Scanyork, Skutskar, 1,000 bls. sulphite. 203 tons; Stora Kopparberg Corp., Scanyork, Skutskar, 2,000 bls. wood pulp, 405 tons; Castle & Overton, Inc., Scanyork, Kotka, 3,048 bls. wood pulp, 358 tons; ——, Scanyork, Kotka, 1,332 bls. sulphite, 223 tons; Lagerloef Trading Co., Scanyork, Helsingfors, 473 bls. sulphite, 80 tons; M. Soone Gripsholm, Gothenburg, 150 bls. sulphate; Castle & Overton, Inc., Hamburg, Hamburg, 840 bls wood pulp, 168 tons.

PORTLAND IMPORTS

WEEK ENDING MAY 27, 1933

Gottesman & Co., Inc., Consul Olsson, Sweden, 3,890 bls. wood pulp; Gottesman & Co., Inc., Lagaholm, Sweden, 2,700 bls. wood pulp.

BOSTON IMPORTS

WEEK ENDING MAY 27, 1933

J. B. Moors & Co., Scythia, Liverpool, 1,175 bags hide cuttings; ——, Scythia, Liverpool, 3 cs. tissue paper; G. F. Malcolm Co., Scythia, Liverpool, 5 cs. tissue paper; Gottesman & Co., Inc., Grandon, Hamburg, 254 bls. wood pulp; Gottesman & Co., Inc., Skagern, Sweden, 310 bls. wood pulp.

PHILADELPHIA IMPORTS

WEEK ENDING MAY 27, 1933

E. J. Keller Co., Inc., Scanyork, ——, 356 bls. wood pulp, 55 tons; Price & Pierce, Ltd., Scanyork, Wallvik, 750 bls. sulphite, 125 tons; 250 bls. mechanical, 50 tons; Stora Kopparberg Corp., Scanyork, Skutskar, 500 bls. wood pulp, 101 tons; ——, Scanyork, Kota, 805 bls. sulphite, 161 tons; Lagerloef Trading Co., Scanyork, Kotka, 135 bls. sulphite, 27 tons; ——, Scanyork, Kotka, 50 rolls news print; Lagerloef Trading Co., Scanyork, Helsingfors, 414 bls. sulphite, 68 tons; Castle & Overton, Inc., Artigas, Manchester, 52 bls. new cuttings; Bank of N. Y. Trust Co., Artigas, Belfast, 101 bls. paper stock; Gottesman & Co., Inc., Grandon, Hamburg, 310 bls. wood pulp; Gottesman & Co., Inc., Tampa, Sweden, 525 bls. wood pulp.

BALTIMORE IMPORTS

WEEK ENDING MAY 27, 1933

Congoleum Nairn Co., Indep. Hall, Havre, 622 bls. rags; S. George Co., Breedyk, Rotterdam, 137 coils old rope; National City Bank, Breedyk, Rotterdam, 56 bls. rags; Gottesman & Co., Inc., City of Havre, Germany, 254 bls. wood pulp; Gottesman & Co., Inc., City of Baltimore, Hamburg, 762 bls. wood pulp.

NORFOLK IMPORTS

WEEK ENDING MAY 27, 1933

Darmstadt Scott & Courtney, Indep. Hall, Dunkirk, 174 bls. bagging; Darmstadt Scott & Courtney, Artigas, Manchester, 146 bls. bagging; Reliance Bagging Co., Breedyk, Rotterdam, 57 bls. bagging; E. J. Keller Co., Inc., Black Hawk, ——, 121 bls. bagging.

SAVANNAH IMPORTS

WEEK ENDING MAY 27, 1933

Manufacturers Trust Co., Tokai Maru, Shanghai, 206 bls. bagging.

PHILADELPHIA MARKET BUOYANT

(Continued from page 17)

are still only commanding $10 a ton. The only answer the trade can find is that there exists a consolidated buying organization, and it is hopeful that under the Recovery Act, something can be done to improve this condition of affairs.

News of the Trade

Harry F. Donahue, of the Molten Paper Company, was elected second vice-president of the Typotheatae at its annual meeting last week at the Manufacturers' Country Club, where were present representatives of all the fine paper houses in this city. Other officers elected by the Typotheatae were: President, M. D. Maull; First Vice President, Julius S. Weyl; Treasurer, Alfred A. J. Clark; Recording Secretary, Harry A. Palmer. Relationship of the Typotheatae of Philadelphia and the Paper Trade Association of Philadelphia is of the most intimate character, and as a matter of fact the Paper Trade Association is now working with Federal trade authorities for the improvement of selling and manufacturing conditions in the printing industry itself.

The Philadelphia Paper and Bag Institute was scheduled to have its regular meeting at the Elks on Wednesday last, but because of a storm more severe than any in Weather Bureau records for the last two decades, attendance was restricted. Nonetheless nine representatives were present, but discussion was confined to business conditions and there was unanimity in agreement that May had brought with it a very decided improvement and that the prospects were brightening with each succeeding day.

Wedding bells will ring out when Clifford A. Saalfrank and Jeanette Cowl join in matrimony on June 3. Mr. Saalfrank is salesman, and Miss Cowl, stenographer, in the employ of the J. L. N. Smythe Company.

Henry Schmidt, a pioneer in the paper box making industry in Philadelphia, and known most favorably to all in the paper trade coming into contact with him, died during the week at his home, 15 Colwyn Lane, Cynwed, at the age of 74. Until his retiring he had been president of Henry Schmidt & Bro., at 328 Vine street. He is survived by a son, Harry H. Schmidt, of Mindon Manor, Wynnewood. Funeral services were held on Monday of this week and the interment took place in West Laurel Hill Cemetery.

Sterling Co. Starts Two Wet Machines

The Smith & Winchester Manufacturing Company, South Windham, Conn., designers and builders of paper mill machinery, have completed and shipped recently two special wet machines. They are to be installed at the new mill of the Sterling Shoe Fibre Company, Eagleville, Conn. Production is expected to start about June 1.

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, May 31, 1933.

Conditions in the local paper market continue to improve. Demand for the various standard grades of paper is brisk. Sales forces of the leading paper organizations are generally optimistic over the future outlook. Prices are holding up very well and reports of concessions are infrequent.

While little change has been reported in the news print paper market there are signs of increased demand from the publishers. Production in the United States, Canada and Newfoundland is proceeding in sufficient volume to cope with current needs. The price situation continues unsatisfactory.

The paper board market is quite active. Demand for box board is president and quotations are steady. The fine paper market is more stable than for some time past. Tissues are moving in good volume. Recent advances in kraft wrapping paper prices are well maintained.

Mechanical Pulp

Trading in the ground wood pulp market is expanding somewhat. Quotations on domestic and Canadian mechanical pulp are steady. Imported ground wood pulp prices have advanced. No. 1 moist is now offered at from $21 to $22 per ton and dry at the same figure; both on dock, Atlantic ports.

Chemical Pulp

Steadiness prevails in the chemical pulp market. There are a number of inquiries around, some of which should materialize into satisfactory orders. Quotations are decidedly firmer, especially for imported No. 1 craft pulp which is now selling at from $1.25 to $1.45, on dock, Atlantic ports.

Old Rope and Bagging

The position of the old rope market is stronger. Demand for both domestic and imported old manila rope is persistent, while offerings are limited. Small mixed rope is going forward in good volume. The bagging market is steadier. Scrap, gunny and roofing bagging are in seasonal request.

Rags

Paper mill demand for domestic rags is better than of late. New cotton rags are exhibiting a strong undertone, especially No. 1 white shirt cuttings, which are also in request from abroad. Roofing grades are firmer, with inquiries more numerous. The imported rag market is sharing in the general improvement.

Waste Paper

The paper stock market is buoyant. Board mill demand for the lower grades of waste paper is more active. The available supply of these grades is reported to be scarce and prices are firmer. No. 1 mixed paper is particularly strong and is now quoted at from 42 to 48 cents, f.o.b. New York.

Twine

Sentiment in the local twine market is more optimistic than for some time past. Demand for the various grades is brisk. The feature of the week's trading is the improvement in all hard fibre twine grades, quotations on which have been advanced 1½ cents per pound. Soft fibre twine prices are steady.

SETTING SOUND SELLING PRICES

(Continued from page 25)

quantity discount all apart. We must see it as a cost which is to be returned.

The value of a quantity discount, strictly speaking, is measurable as the present value of a future payment, the relief from interest and storage charges, possibly a lessening of delivery charges if the seller makes delivery. In other words, in the light of the stated principle, the allowance of the quantity discount is the payment to the buyer for the assumption by him of certain charges which otherwise would be borne by the seller. It is a recognition and a payment for certain function services and costs and the amount of these is the limit of the quantity discount. In excess of this amount, it is a price concession and an improper price discrimination. The quantity discount must be reduced to its true terms as a return of cost.

In coming to the question of selling the wholesaler and the retailer, one faces a stark and grim alternative. Because their functional service is different, their costs are different. To make one prime cost to both types of distributor, the selling price would have to be calculated on the wholesaler. To this base, we suppose the wholesaler adds 15 per cent and the retailers to whom he sells, add 25 per cent. The retailer buying direct at the same price as the wholesaler, adds 25 per cent and undersells the other retailers by 15 per cent. The manufacturer's selling price will be forced down to the level fixed by the direct buying retailer, simply because the wholesaler's function has been thrown back on the manufacturer and its cost is not expressed in the retailer's selling price. On the other hand, if the manufacturer's selling price is calculated on the direct sale to the retailer, the wholesaler is wiped off the map.

Now here is the stark alternative. If sound selling prices both for manufacturers and distributors are not a delusion, never to be realized the wholesaler must go and the selling price system must be based on the retailer sold direct or there must be a classification of distributors according to the function served with an established trade discount or differential between them. This differential would have to be observed in all sales to the retail trade direct or such sales will be prohibited. The wholesale-retailer, the retail-wholesaler, the buying syndicate would have to become one thing or the other.

I suggest the existing conditions and these alternatives as something to think about.

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, May 31, 1933.

BLANC FIXE.—The blanc fixe market is fairly active. Prices are generally holding to previously quoted levels. The pulp is offered at from $42.50 to $45.00 per ton, in bulk; while the powder is selling at from 3 to 3½ cents per pound, in barrels, at works.

BLEACHING POWDER.—Demand for bleaching powder is gradually improving. The contact movement is fairly heavy. Prices are holding to schedule without difficulty. Bleaching powder is quoted at from $1.75 to $2.00 per 100 pounds, in drums, at works.

CASEIN.—The casein market continues firm. Domestic casein is quoted at 10½ to 11 cents and finely ground at 11 to 11½ cents per pound. Argentine standard ground is selling at 9⅞ cents and finely ground at 10½ cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Business in the caustic soda market is gaining. The contract movement is well up to average. Solid caustic soda is quoted at from $2.55 to $3.00; while the flake and ground are selling at from $2.95 to $3.00 per 100 pounds, in large drums, at works.

CHINA CLAY.—The china clay market is steadier. Demand is fairly persistent. Prices are holding to schedule. Imported china clay is quoted at from $12 to $17 per ton, ship side; while domestic paper making clay is selling at from $5 to $12 per ton, at mine.

CHLORINE.—Steadiness prevails in the chlorine market. Shipments against contract are going forward at a satisfactory pace. Prices remain unchanged. Chlorine is quoted at $1.75 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—The rosin market is irregular. The grades of gum rosin used in the paper mills are now quoted at from $4.40 to $4.75 per 280 pounds, in barrels, at works; while wood rosin is selling at $3.30 per 280 pounds, in barrels, at southern shipping points.

SALT CAKE.—Conditions in the salt cake market are fairly satisfactory. Salt cake is quoted at from $12.50 to $13.00; chrome salt cake at from $11.50 to $12.50 per ton, at works; while imported salk cake is selling at from $12.50 to $13.00 per ton, on dock.

SODA ASH.—The soda ash market continues to display strength. Demand is quite active and prices are steady to firm. Quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1.05; in bags, $1.30; and in barrels, $1.43.

STARCH.—Trading in the starch market is brisk. The contract movement is fairly heavy. Prices are holding to schedule. Special paper making starch is quoted at $2.64 per 100 pounds in bags; and at $2.91 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—Paper mill request for sulphate of alumina is well sustained. Prices are steady and unchanged. Commercial grades are quoted at from $1.25 to $1.46; while iron free is selling at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market continues steady. Sulphur is quoted at $18 per long ton, on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton on any smaller quantity over that period. On spot and near by car loads, the quotation is $21 per ton.

TALC.—Firmness prevails in the talc market and rumors of advanced prices in the near future are persistent. Domestic talc is quoted at from $16 to $18 per ton, in bulk, at eastern mines; while imported talc is selling at from $18 to $22 per ton, ship side.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	6.50	@	38.00
Bonds	4.75	@	53.25
Index	6.00	@	12.00
Writings—			
Extra Superfine	6.50	@	15.00
Superfine	6.25	@	14.75
Tub sized	4.50	@	7.00
Engine sized	4.00	@	5.00
Book, Cased—			
S. & S. C.	4.25	@	5.00
M. F.	3.75	@	4.25
Coated and Enamel	5.00	@	9.00
Lithograph	5.00	@	9.00
Tissues—Per Ream—			
White No. 1	.50	@	.70
White No. 2	.45	@	.60
Anti-Tarnish M. G. only	.65	@	.70
Colored	.70	@	.90
Kraft	.65	@	.70
Manila	.55	@	.60
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00
Butchers	3.37½	@	—
Fibre Papers—			
No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75
Common Bogus	1.50	@	3.00
Screenings	2.00	@	3.00
Card Middles	4.00	@	5.00
Glassine—			
Bleached, basis 25 lbs., No. 1	.09¼	@	—
No. 2	.11¼	@	—
Bleached, basis 20 lbs.	.11¼	@	—

(Delivered New York)

News, per ton—			
Roll, contract	40.00	@	—
Rolls, spot	40.00	@	—
Sheets	45.00	@	—
Side Runs	25.00	@	—
Kraft—			
No. 1 Domestic	4.50	@	4.75
No. 2 Domestic	2.75	@	3.00
Southern	2.75	@	3.00
Imported	2.75	@	3.50
Boards—per ton—			
News	32.50	@	35.00
Straw	29.50	@	31.50
Chip	30.00	@	32.50
Binders' Boards	62.00	@	70.00
Kraft Liner	45.00	@	47.50
Standard 85 Test Jute Liner	27.75	@	30.00
Sgl. Mla. Ll. Chip	40.00	@	42.50

(F. o. b. Mill)

Wood Pulp Boards	70.00	@	80.00

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—			
Moist	21.00	@	22.00
Dry	21.00	@	22.00

(F. o. b. Mill)

No. 1 Domestic and Canadian	14.00	@	22.00

Chemical Pulp

(On Dock, Atlantic Ports)

Sulphite (Imported)—			
Bleached	1.90	@	2.40
Easy Bleaching	1.60	@	1.75
No. 1 strong unbleached	1.50	@	1.65
Mitscherlich unbleached	1.60	@	1.75
No. 2 strong unbleached	1.35	@	1.40
No. 1 Kraft	1.25	@	1.45
No. 2 Kraft	1.10	@	1.15
Sulphate—			
Bleached	1.85	@	2.15

(F. o. b. Pulp Mill)

Sulphite (Domestic and Canadian)—			
Bleached	1.75	@	3.75
Easy Bleaching	1.60	@	1.75
News	1.40	@	1.65
Mitscherlich unbleached	2.00	@	2.25
Kraft (Domestic)	1.25	@	2.75

(Delivered Paper Mills)

Soda Bleached	2.00	@	—

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	3.80	@	4.25
Silesias No. 1	3.00	@	3.25
New Unbleached	5.25	@	5.75
New Soft Blacks	2.75	@	3.00
Blue Overall	2.50	@	3.00
Fancy	1.25	@	1.50
Washables	1.00	@	1.25
Mixed Khaki Cuttings	2.25	@	2.50
O. D. Khaki Cuttings	2.50	@	3.00
Men's Corduroy	1.00	@	1.25
New Mixed Blacks	2.25	@	2.50

Old Rags

White, No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.00	@	2.25
White, No. 2—			
Repacked	1.75	@	2.00
Miscellaneous	1.50	@	1.75
Thirds and Blues—			
Repacked	1.50	@	1.75
Miscellaneous	1.00	@	1.25
Black Stockings	2.00	@	2.25
Roofing Rags—			
No. 1	.60	@	.70
No. 2	.50	@	.60
No. 3	.45	@	.50
No. 4	.40	@	.45
No. 5A	.35	@	.40

Foreign Rags

New Rags

New Dark Cuttings	1.50	@	1.60
New Mixed Cuttings	1.60	@	1.70
New Light Silesias	3.25	@	3.50
Light Flannelettes	3.00	@	3.25
Unbleached Cuttings	5.00	@	5.25
New White Cuttings	4.50	@	4.75
New Light Oxfords	3.25	@	3.50
New Light Prints	2.00	@	2.25

Old Rags

No. 1 White Linens	5.75	@	6.00
No. 2 White Linens	5.00	@	5.25
No. 3 White Linens	4.00	@	4.25
No. 4 White Linens	2.00	@	2.25
No. 1 White Cotton	3.75	@	4.00
No. 2 White Cotton	3.00	@	3.25
No. 3 White Cotton	2.50	@	2.75
No. 4 White Cotton	1.50	@	1.60
Extra Light Prints	2.00	@	2.25
Ord. Light Prints	1.75	@	1.85
Med. Light Prints	1.55	@	1.65
Dutch Blue Cottons	1.50	@	1.80
French Blue Linens	2.10	@	2.25
German Blue Linens	1.85	@	2.00
German Blue Cottons	1.35	@	1.50
Checks and Blues	1.30	@	1.40
Lindsay Garments	.95	@	1.05
Dark Cottons	.80	@	.90
Old Shopperies	.75	@	.80
New Shopperies	.70	@	.75
French Blues	1.40	@	1.50

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	1.00	@	1.10
Domestic	1.00	@	1.10
Wool Tares, light	.90	@	1.00
Wool Tares, heavy	.90	@	1.00
Bright Bagging	.90	@	.95
Manila Rope—			
Foreign	1.70	@	1.80
Domestic	1.60	@	1.75
Small Mixed Rope	.60	@	.65
New Burlap Cut	1.25	@	1.50
Hessian Jute Threads—			
Foreign	2.60	@	2.75
Domestic	2.80	@	3.00

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	2.05	@	2.15
Ordinary Hard White No. 1	1.70	@	1.80
Hard White No. 2	1.50	@	1.60
Soft White No. 1	1.45	@	1.55
Flat Stock—			
Stitchless	.70	@	.75
Overissue Mag	.70	@	.75
Solid Flat Book	.60	@	.70
Crumpled No. 1	.45	@	.50
Solid Book Ledger	1.50	@	1.75
Ledger Stock	.45	@	.55
New B. B. Chips	.20	@	.25
Manilas—			
New Env. Cut	1.35	@	1.45
New Cuttings	1.00	@	1.05
Extra No. 1 old	.80	@	.90
Print	.35	@	.40
Bogus Wrapper	.30	@	.35
Container	.25	@	.30
Old Kraft Machine—			
Compressed bales	.75	@	.80
News—			
No. 1 White News	1.00	@	1.05
Strictly Overissue	.50	@	.55
Strictly Folded	.45	@	.50
No. 1 Mixed Paper	.42	@	.48

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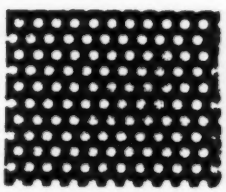
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Twines
(F. o. b. Mill)

Cotton—			
B. C., 18 basis	.30	@	.32
No. 1	.20	@	.22
No. 2	.19	@	.20
No. 3	.17	@	.18
A. Italian, 18 basis	.36	@	.37
Finished Jute—			
Dark, 18 basis	.18	@	.20
Light, 18 basis	.20	@	.22
Jute Wrapping, 3-6 Ply—			
No. 1	.15½	@	.16½
No. 2	.11¾	@	.12¾
Tube Rope—			
4-ply and larger	.08¼	@	.10¾
Fine Tube Rope—			
4-ply	.12¼	@	.12¾
3-ply	.13¼	@	.13¾
2-ply	.14¼	@	.14¾
Paper Makers Twine			
Balls	.09¼	@	.11¼
Box Twine, 2-3 ply	.11¼	@	.12¾
Jute Rope	.09	@	.10
White Hemp	.12¼	@	.15¾
Java Sisal—			
No. 1 Basis	.11½	@	—
No. 2 Basis	.10½	@	—
New Zealand Sisal	.11½	@	—
Sisal Lath Yarn—			
No. 1	.13½	@	.15½
No. 2	.11½	@	.13½
Manila Twine	.24½	@	.29½

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.30	@	.53¼
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.04	@	.11
Superfine Writing	.18	@	.24
No. 1 Fine Writing	.14	@	.18
No. 2 Fine Writing	.12	@	.14
No. 3 Fine Writing	.07	@	.18
No. 1 M. F. Book	.06½	@	.07¾
No. 2 M. F. Book	.05¾	@	.06¾
No. 1 S.&S.C. Book	.06¼	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¾	@	.05¾
No. 1 Fibre	.04¾	@	.05¾
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.03¼	@	.03¾
No. 1 Kraft	3.50	@	4.50
Southern Kraft	2.62½	@	—
No. 2 Kraft	2.62½	@	—
Wood Tag Boards	.04¼	@	.06¾
Sulphite Screenings	.03	@	.03¾
Manila Tissue	.07	@	.07¾
White Tissue	.07¼	@	.07½

(Delivered Central Territory)

News, per ton—			
Rolls, contract	45.00	@	—
Sheets	50.00	@	—
Boards, per ton—			
Plain Chip	27.50	@	—
Solid News	30.00	@	—
Manila Lined Chip	37.50	@	—
Patent coated	47.50	@	—
Container Lined—			
85 Test	50.00	@	55.00
100 Test	55.00	@	60.00

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope cuttings	1.50	@	1.55
No. 1 Hard White	1.40	@	1.45
No. 1 Soft White	1.00	@	1.10
Ledger & Writings	.55	@	.60
Solid Books	.45	@	.50
Blanks	1.00	@	1.05
Krafts	.70	@	.80
New Kraft Cuts	1.15	@	1.25
Manila Env. Cuts	1.25	@	1.30
Ex. No 1 Manila	.90	@	1.00
Print Manila	.30	@	.40
Overissue News	.45	@	.50
Old Newspapers—			
No. 1	.45	@	.50
Mixed Papers—			
No. 1	.25	@	.30
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds	.04	@	.40
Ledgers	.06	@	.40
Writings—			
Superfine	.10	@	.18
Extra Fine	.15	@	.26
Fine	.15	@	.26
Fine, No. 2	.10	@	.25
Fine No. 3	.05½	@	.18
Book, M. F.	.04¾	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.06	@	.16
Coated Lithograph	.06	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.06	@	.09
Manila Sul., No. 1	.03	@	.05
Manila No. 2	.03	@	.04
No. 1 Kraft	.05¼	@	.06
No. 2 Kraft	.03¾	@	.04¼
Southern Kraft	2.75	@	4.00
Common Bogus	.03	@	.04

(Delivered Philadelphia)

News Print Rolls	46.00	@	—
Straw Board	32.00	@	—
News Board	30.00	@	—
Chip Board	30.00	@	—
Wood Pulp Board	70.00	@	80.00
Binder Boards—			
No. 1, per ton	73.00	@	75.00
No. 2, per ton	62.00	@	65.00
Carload lots	60.00	@	65.00
Tarred Felts—			
Regular	52.25	@	54.25
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.03½	@	.04
New White, No. 2	.02½	@	.04
Light Silesias	.02½	@	.03
Silesias, No. 1	.03	@	.03½
Black Silesias, soft	.02½	@	.03
New Unbleached	.05	@	.05½
Washable, No. 1	.01	@	.01½
Blue Overall	.03	@	.03½
Cottons—According to grades—			
Washable, No. 2	.01	@	.02
New Blue	.01	@	.02
Fancy	.01½	@	—
New Black Soft	.02	@	.03
New Light Seconds	.01	@	.02
New Dark Seconds	1.50	@	1.75
Khaki Cuttings—			
No. 1 O.D.	.03	@	.03¼
No. 2 Mixed	.02½	@	.03
Corduroy	.02	@	.02½
New Canvas	.03½	@	.04
New Black Mixed	.02½	@	.03

Domestic Rags (Old)

White No. 1—			
Repacked	2.50	@	3.00
Miscellaneous	1.75	@	2.00
M. G.	3.00	@	3.50
Thirds and Blues—			
Miscellaneous	1.00	@	1.25
Repacked	1.50	@	1.75
Black Stockings (Export)	2.00	@	3.50
Roofing Stock—			
Foreign No. 1	.50	@	.75
Repacked	.70	@	.80

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.25	@	1.50
Domestic	1.50	@	—
Manila Rope	2.00	@	2.25
Sisal Rope	1.25	@	1.50
Mixed Rope	1.00	@	1.10
Scrap Burlaps—			
No. 1	1.25	@	1.50
No. 2	.80	@	1.00
Wool Tares, heavy	2.75	@	—
Mixed Strings	1.15	@	1.25
No. 1 New Light Burlap	2.25	@	2.50
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	1.65	@	1.70
No. 2 Hard White	1.50	@	1.60
No. 1 Soft White	1.40	@	1.45
No. 2 Soft White	1.10	@	1.15
No. 1 Mixed	.50	@	.60
No. 2 Mixed	.40	@	.50
Solid Ledger Stock	1.20	@	1.25
Writing Paper	.70	@	.75
No. 1 Books, heavy	.55	@	.60
No. 2 Books, light	.40	@	.45
No. 1 New Manila	1.20	@	1.25
No. 1 Old Manila	.60	@	.65
Print Manila	.40	@	.50
Container Manila	.40	@	.50
Old Kraft	.80	@	.85
Common Paper	.30	@	.35
No. 1 Mixed Paper	.30	@	.35
Straw Board, Chip	.25	@	.30
Binders Board Chip	.30	@	.35
Corrugated Board	.40	@	.50
Overissue News	.50	@	.60
Old Newspaper	.40	@	.50

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.06	@	.12½
Rag Content	.12	@	.30
All Rag	.36	@	.52½
Bonds—			
Sulphite	.05¾	@	.11¾
Rag Content	.12	@	.30
All Rag	.36	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06¾
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	—	@	.04¾
No. 2 Kraft	.02¾	@	—

(F. o. b. Boston)

Southern Kraft	.02¾	@	—

(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)

Common Bogus	.02	@	.02¾

(Delivered New England points)

News Print, rolls	44.50	@	—
Straw Board, rolls	.009	@	35.00
Straw Board in Sheets, basis 35s to 70s	—	@	40.00
Filled News Board	32.50	@	—
Chip Board	30.00	@	—
Chip Board (Creasing)	27.50	@	30.00
Single Manila Lined Chip	40.00	@	—
Single White, Patent Coated News Board—			
Bender	50.00	@	57.50
Wood Pulp Board	70.00	@	75.00
Binder Boards	62.00	@	75.00

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Soft White	1.25	@	1.40
No. 1 Old Manila	.50	@	.60
No. 1 Mixed	.60	@	.70
No. 2 Mixed	.40	@	.50
Solid Ledger Books	1.20	@	1.40
Overissue Ledger Stock	1.15	@	1.30
Mixed Ledgers	.60	@	.70
No. 1 Books, heavy	.55	@	.65
No. 1 Books, light	—	@	.30
Crumpled Stitchless Book Stock	.50	@	.60
Manila Env. Cuttings	1.25	@	1.30
No. 1 Old Manila	.50	@	.60
White Blank News	.90	@	.95
No. 1 Kraft	.80	@	.85
Manila	.80	@	.90
No. 1 Mixed Papers	.30	@	.32½
Print Manila	.30	@	.40
Overissue News	.50	@	.55
Old Newspapers	.40	@	.45
Box Board, Chip	.20	@	.22½
Corrugated Boxes	.32½	@	.35
Screening Wrappers	.25	@	.32½

Bagging
(F. o. b. Boston)

Manila Rope—			
Foreign	1.55	@	1.70
Domestic	1.55	@	1.75
Transmission Rope	1.20	@	—
Mixed Strings	.25	@	.30
Jute Rope	.85	@	—
Jute Carpet Threads	.25	@	.30
Gunny No. 1—			
Foreign	1.20	@	—
Domestic	.70	@	.80
Bleachery Burlap	1.75	@	2.00
Scrap Burlap	.60	@	.70
No. 1 Scrap Burlap	.70	@	.75
Scrap Sisal	.80	@	1.00
Scrap Sisal for shredding	—	@	.90
Wool Tares, heavy	.75	@	.85
New Burlap Cutting	.75	@	.90
Australian Wool Pouches	2.00	@	2.25
Heavy Baling Bagging	.90	@	1.25
Paper Mill Bagging	.35	@	.40
Bagging No. 2	.30	@	.35
No. 1 Burlap	1.75	@	2.00

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	—	@	.01½
New White No. 1	.03¾	@	—
New White No. 2	.02¾	@	.03¼
Silesias No. 1	—	@	.03
New Black Silesias	.02½	@	.02¾
New Unbleached	.06	@	—
Fancy	—	@	.02½
Washable	—	@	.01½
Cottons—According to grades—			
Blue Overalls	—	@	.03¼
New Black, soft	.04	@	.04
Khaki Cuttings	.03	@	.03½
O. D. Khaki	.03	@	.03¾
Corduroy	.01¾	@	.02
New Canvas	—	@	.05
B.V.D. Cuttings	.04	@	.04¼

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.00	@	—
White No. 2—			
Repacked	.01½	@	.01¾
Miscellaneous	.01½	@	.01¾
Twos and Blues	.90	@	1.00
Thirds and Blues—			
Repacked	.75	@	.85
Miscellaneous	.70	@	.75
Black Stockings	2.25	@	2.50
Roofing Stock—			
No. 1	.55	@	.60
No. 2	.45	@	.50
No. 3	.35	@	.40

Foreign Rags
(F. o. b. Boston)

Dark Cottons	.80	@	.90
Shirt Cuttings	5.00	@	5.25
Dutch Blues	1.75	@	2.00
Thirds & Blues	2.25	@	2.50
Old Fustians	1.15	@	—
Old Linsey Garments	.90	@	1.05

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.09¾	@	—
No. 2 Sulphite	.08	@	—
No. 1 Colored	.10¾	@	—
No. 2 Colored	.08½	@	.10½
Ledgers (sulphite)			
Ledgers, No. 1	.34½	@	—
Ledgers, No. 2	.25½	@	—
Writing	.09	@	.09½
Book—			
No. 1 M. F. (Carloads)	6.20	@	—
No. 3 M. F. (Carloads)	5.70	@	—
No. 4 M. F. (Carloads)	4.75	@	—
No. 1 S. C. (Carloads)	6.65	@	—
No. 3 S. C. (Carloads)	6.20	@	—
No. 4 S. C. (Carloads)	5.20	@	—
No. 1 Coated and Litho	12.00	@	—
No. 2 Coated and Litho	10.50	@	—
No. 3 Coated and Litho	9.50	@	—
Coated tinted	14.00	@	—
Wrapping—			
Rag Brown	4.25	@	—
White Wrap	2.00	@	—
"B" Manila	4.75	@	—
No. 1 Manila	5.25	@	—
Fiber	5.25	@	—
Kraft, M. F.	5.75	@	—
Kraft No. 2	5.25	@	—

(F.O.B. Cars Toronto)

News, per ton—			
Rolls (contract)	45.50	@	—
Sheets	50.50	@	—

Pulp
(F. o. b. Mill)

Ground Wood	18.00	@	20.00
Sulphite easy bleaching	40.00	@	—
Sulphite, news grade	38.00	@	—
Sulphite, bleached	45.00	@	50.00
Sulphate	50.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	1.80	@	—
Soft White	1.40	@	—
White Blk. News	1.25	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	.90	@	—
Light and Crumpled Book Stock	.80	@	—
Ledgers and Writings	1.00	@	—
Manilas—			
New Manila Cut	1.25	@	—
Printed Manilas	.55	@	—
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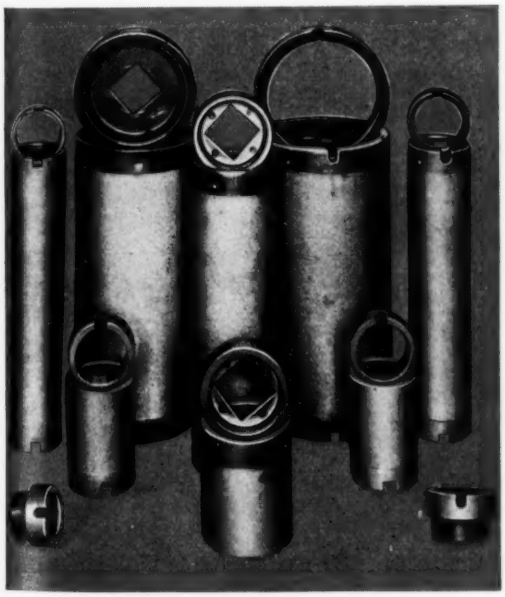

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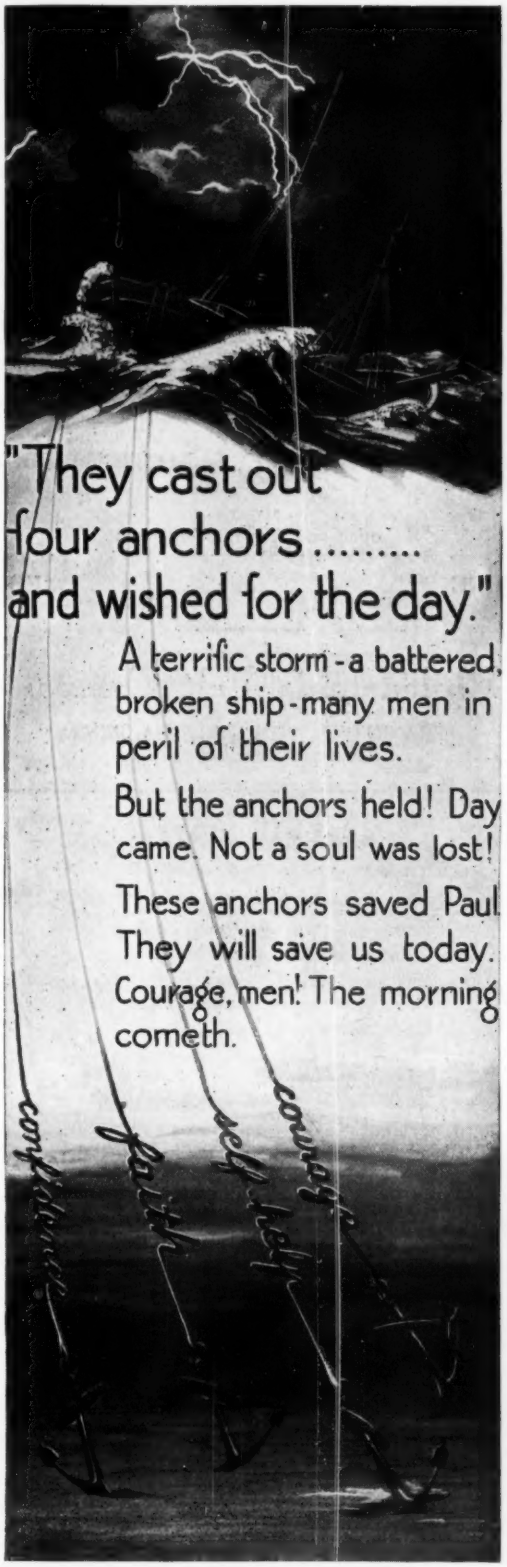
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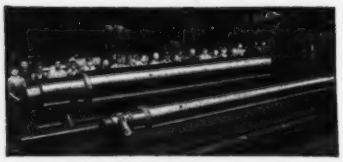

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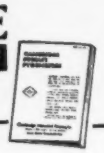

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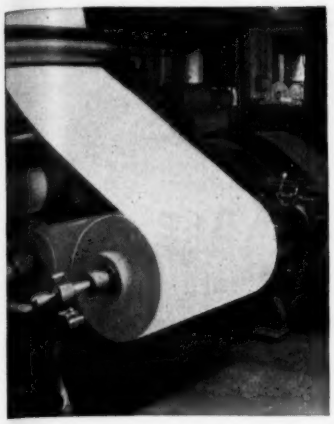

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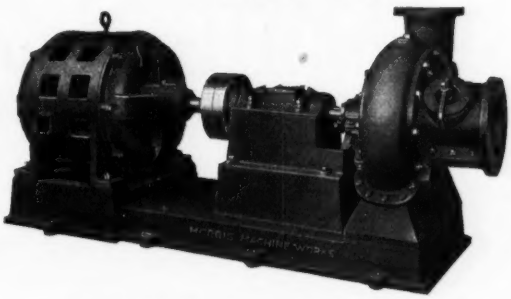

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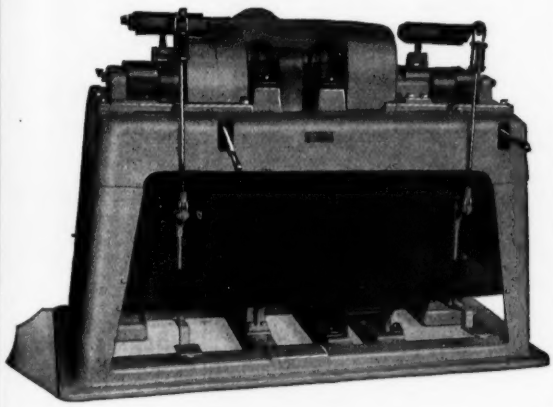

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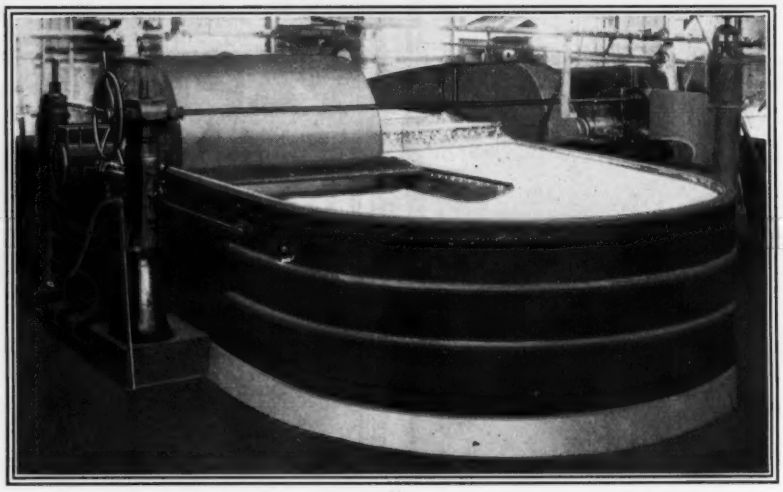

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